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The influence of employee wellbeing on citizenship behaviour towards individuals and the organization

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ABSTRACT

Purpose: This thesis addresses a gap in the current literature by investigating the relationship between, and the influence of employee wellbeing (EWB) variables, i.e. subjective, psychological, and workplace wellbeing on organizational citizenship behaviour (OCB). Specifically, it looks at the citizenship behaviours of nurses, and allied health professionals towards their clients, teammates, and organization. OCB of health-care professionals is important because it influences job satisfaction, reduces burnout, and turnover; and influences unit level consequences such as quality of care, patient satisfaction, and patient loyalty. Further, this study proposes a modified, and expanded conceptual framework of EWB, which involves both the hedonic and the eudemonic approaches in life, and at work.

Design/Methodological Approach: In a cross-sectional questionnaire design, data were collected from 201 health care professionals at the psychiatric hospitals of two private chains in New South Wales and through social media in Australia using convenience sampling. The study used partial least square structural equation modelling (PLS-SEM) to confirm the reliability and validity of the reflective exogenous measures (i.e. subjective, psychological, and workplace wellbeing variables) and the reflective endogenous measures (i.e. the three variables of OCB towards client, teammates, and organization). The inner structural model is used to examine the extent to which the hypotheses of this study are accepted or rejected.

Findings: The study revealed that nine out of thirteen hypotheses are accepted. Subjective wellbeing (SWB) had a significant relationship with citizenship behaviours

towards the organization (OCBO). Psychological wellbeing (PWB) had a positive influence on citizenship behaviours towards clients (OCBIc) and teammates (OCBIt); whereas workplace wellbeing (WWB) influenced citizenship behaviours towards teammates (OCBIt) and the organization (OCBO). Moreover, EWB, i.e., all three wellbeing variables taken together, explained the 8.5% variance in OCBIc, 16.7% variance in OCBIt, and 11.3 % variance in OCBO, respectively. Further, SWB influenced only OCBO; PWB influenced both, OCBIc and OCBIt; whilst, WWB influenced only OCBIt and OCBO significantly. The variances were modest, however, given that citizenship behaviours are complex; even a small variance is deemed significant. Of the EWB predictors, the effect of PWB is moderate but strongest on OCBIt. Overall, the findings in this study point to the importance of EWB variables in augmenting the citizenship behaviours of nurses and allied health professionals.

Contributions:

This study makes an advancement in the antecedent literature of OCB. Specifically, it empirically clarifies the respective role of the three types of employee wellbeing antecedents in citizenship behaviours of health professionals towards individuals (clients and teammates) and organization. This study also makes theoretical contributions to the OCBI-OCBO framework, OCBI (towards clients) literature in health care, and in modifying the EWB framework of Page & Vella-Brodrick.

Practically, the findings provide insights for human resources (HR) departments in organizations into how the wellbeing variables of nurses and allied health professionals augment valuable citizenship performances. In that way, the findings show how wellbeing programs should be effectively integrated into HR policies to enhance the

OCBs of the health professionals towards individuals and the organization. The domino effects of the findings in this study have implications for a positive work culture and advantageous competitive edge for health sectors in Australia.

Limitations and Future Directions: The findings are based on a convenient sample of 201 nurses and allied health professionals in Australia, and therefore raise generalizability issues. As the study is a cross-sectional design, the influence of the employee wellbeing conditions may not be able to be captured effectively in the long run. This study did not investigate moderators and mediators in the relationship between EWB and OCB, which could be a future research project. In addition, further research could examine specific dimensions of PWB, other than autonomy and purpose in life in the health profession. The clarified construct of EWB in this study can be developed as a comprehensive scale and be validated on a large scale across countries. Most importantly, there is need for the development and validation of a specific OCB scale for health professionals.

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This thesis is dedicated to my late mother, Dr Anjali Mukherjee.

CERTIFICATION

I, Miss Indrani Mukherjee, declare that this thesis submitted in fulfilment of the requirements for the conferral of the degree of Doctor of Philosophy, from the University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. This document has not been submitted for qualifications at any other academic institution.

Miss Indrani Mukherjee

31st March 2020

LIST OF ABBREVIATIONS/NAMES

AWB	Affective wellbeing
B&B	Broaden-and-Build theory
CB-SEM	Covariance Based - Structural Equation Modelling
CBT	Cognitive Behaviour Therapy
CFA	Confirmatory Factor Analysis
COR	Conservation of resources theory
EFA	Exploratory Factor Analysis
EWB	Employee wellbeing
HAW	Happiness at workplace
HR	Human resource
IPL	Initial Program Loading
LS	Employee care / Life satisfaction
NHWDS	National Health Workforce Dataset
OCB	Organizational citizenship behaviours
OCBC	Organizational citizenship behaviour toward customers
OCBI	Organizational citizenship behaviours towards individuals
OCBIc/OCBT	Organizational citizenship behaviours towards clients
OCBIt/OCBT	Organizational citizenship behaviours towards teammates
OCBO	Organizational citizenship towards the organization
OLC	Organizational learning capabilities
POS /OR	Organizational respect for the employees
PSL-SEM	Partial Least Square Structural Equation Modelling
PsyCap	Psychological Capital
PWB	Psychological wellbeing
PWBA/PWBaut	PWB dimension of autonomy
PWBP/PWBpur	PWB dimension of purpose in life
R&D	Research and Development
SET	Social Exchange theory
SWB	Subjective Wellbeing

SWBsat	SWB dimension of life satisfaction
SWBpos	SWB dimension of positive affect
SWBneg	SWB of negative affect
US	United States
UK	United Kingdom
VIF	Variation inflation factor
WLI	Intrusion of work into private life
WS	Work satisfaction
WWB	Workplace wellbeing

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CHAPTER 1

RESEARCH CONTEXT

1.1 Introduction

The current work climate in the health sector is very precarious due to a shortage of skilled labour and increased pressures on the health system (Harvey et al., 2018). There is also an expectation that employees demonstrate more pro-organisational behaviours that go beyond their job descriptions. These types of behaviours provide organisations with a competitive advantage which is of importance in the private health sector (Kolade et al., 2014).

In organizational psychology, pro-organizational behaviours of employees can be of two main types: 'in role' and 'extra-role' (Van Dyne et al., 1995) performances. The willingness of employees to attend to their job tasks (i.e. in role), and voluntarily engage in behaviours outside their formal job description (extra-role), leads to the effective outcomes for the organization (Wright & Cropanzano, 2010).

Researchers have indicated that the extra-role types of pro-organizational behaviours are discrete and voluntary acts such as cooperation, helpfulness, suggestions, gestures of goodwill, altruism' (Smith et al., 1983, p. 653) that form the 'psychological' and 'social' fabric in which task performances can take place effectively (Organ, 1997). These forms of job behaviour or performance are called organizational citizenship behaviour (OCB), which are recognised in research and practice alike as one of the main drivers of a functioning organization and its employees. OCB is defined by Organ et al. (2006) as

> individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization (p. 3).

OCB is linked to significant organizational-level outcomes such as productivity, reduced cost, turnover, and customer satisfaction (Podsakoff et al., 2009). On the other hand, OCB is also associated with important individual-level outcomes such as supervisor appraisals of employee performance, reward allocations, turnover intentions, and absenteeism (Podsakoff et al., 2009). These beneficial outcomes of OCB are described in the literature (for instance, Podsakoff et al., 2009), and have motivated researchers to explore the factors that augment these productive employee behaviours. Research on the determinants of OCB has thus gained impetus in the last forty years (for instance, Alotaibi, 2001; Organ et al., 2006; Dewett & Denisi, 2007; Jha & Jha, 2010; Cem-Ersoy et al., 2015; Lomoya et al., 2015).

An area of interest to both practitioners and researchers is employee wellbeing (EWB) factors as antecedents of OCB. In other words, organizational research is invested in what makes an employee 'happy' (see Wright & Huang, 2012 for the broader definition of happiness) at work and triggers positive prosocial behaviours like OCB. Some examples of determinants of OCB are organizational commitment (for instance, Zheng et al., 2013), which is the degree of identification with and involvement in the organization, and job engagement (for instance, Bakker et al., 2011), which is described as the emotional and rational dedication to one's work. However, a recent review on OCB by Ocampo et al. (2018) indicates that job satisfaction is reported to be its most popularly explored antecedent to date.

Job satisfaction, which is an employee's satisfaction with the different variables of work, is a popularly researched factor of EWB, and is related to OCB (Wright & Cropanzano, 2007; Wright et al., 2007; Chiu & Chen, 2005; Zeinabadi, 2010; Lambert 2010; Zeinabad & Saheli, 2011; Davar & Ranju, 2012). However, the influence of job satisfaction on OCB has been reported to be weak (for example, $r = 0.3$ in Rice et al., 2003). In fact, other studies (for instance, Kim et al., 2006) have found job satisfaction has no direct effect on this behaviour. This indicates the need to explore other EWB factors beyond job satisfaction that might explain a higher variance in the OCB.

Apart from job satisfaction, higher positive affect and lower negative affect are related to OCB (Organ, 1989; Staw et al., 1994; Kaplan et al., 2009; Jain et al., 2012). Yet, in other studies, life satisfaction, burnout, and exhaustion have been related to citizenship behaviours (Cropanzano et al., 2003; Chiu & Tsai, 2006; Brand et al., 2010; Kasa & Hassan, 2015). These prior studies have therefore indicated that EWB has been largely defined by the worker's subjective experiences of feelings and satisfaction in life and at work. Wright (2010), for example, described EWB as the subjective experiences of the worker, i.e. job satisfaction and relatively higher experience of positive affect than negative affect. In literature, this type of subjective experience of positive feelings and satisfaction is termed subjective wellbeing (SWB). It is described as a significant variable of EWB and has been linked to OCB (Organ, 1989, Cropanzano et al., 2003; Chiu & Tsai, 2006; Brand et al., 2010; Kasa & Hassan, 2015).

In the meantime, scholars of wellbeing in general (for example, Keyes & Annas, 2002; Keyes & Ryff, 2006; Kashdan et al., 2008) have argued that there is more to life than the fulfilment of pleasure and positive emotions, or, in other words, SWB. The above wellbeing academics reported that the presence and fulfilment of psychological virtues,

values, and psychological needs helps an individual to function well in life. This type of wellbeing is referred in the literature as the functioning or psychological wellbeing (PWB) (Ryff, 1989; Deci & Ryan, 1985; Ryan & Deci, 2000).

Whilst scholars have debated the nature and definition of SWB and PWB (Waterman et al., 2008; Kashdan et al., 2008; Keyes & Annas, 2009)—whether feeling good (SWB) and functioning well (PWB) are two different variables of wellbeing—others have encouraged an integrative approach. For instance, Delle Fave et al. (2011) argued that SWB is as important as PWB. This means EWB must incorporate both SWB and PWB in its definition. However, even though SWB and PWB are related but distinct wellbeing constructs (Keyes & Annas, 2002; Kashdan et al., 2008; Delle Fave et al., 2011; Joshanloo et al., 2019), as far as this researcher is aware PWB as a variable of EWB has not been explored in the literature as a direct determinant of OCB.

Nonetheless, EWB researchers have argued for a third, domain-specific workplace wellbeing (WWB) construct to be included in its definition, which would examine and measure specific WWB factors distinct from SWB and PWB in life. This is because even though a person may overall evaluate one's life in general in the positive, negative or neutral terms, one's job conditions, treatment and opportunities are likely to influence how one feels and functions specifically at work. In other words, work related factors will influence one 's SWB and PWB at work. For example, Devonish (2013) indicates how job satisfaction and work-related depression mediates the relationship between environmental work stress such as bullying and work performances (that incorporates job tasks, OCB, and deviant counter-productive work behaviours). Scholars (e.g. Fisher, 2010; Page & Vella-Brodrick, 2009; Parker & Hyett, 2011) have therefore argued for a domain-specific WWB construct beyond job satisfaction and emotions felt at work.

Fisher (2010), for instance, asserted that 'Happiness at Workplace' (HAW) as a WWB construct must incorporate other job attitudes, such as job engagement, in addition to job satisfaction. In line with such recommendations, Page & Vella-Brodrick (2009) also propose a conceptual framework for EWB that integrates SWB in life, PWB in life, and WWB, which measured SWB at work. The authors (Page & Vella-Brodrick, 2009) asserted that these aspects of EWB were significant antecedents to employee turnover and performance, and the proposed EWB framework would "foster a more integrated approach to assessing and optimising employee well-being" (p. 441). However, their EWB framework (Page & Vella-Brodrick, 2009) did not include PWB at work.

Whilst WWB initially incorporated SWB factors experienced at work (Fisher 2010; Page & Vella-Brodrick, 2009) other researchers argued PWB at work must also be incorporated in assessing WWB, and thus initiated the development of WWB measures that explored specifically PWB at work (e.g. Eaton et al., 2018; Czerw, 2019). Additionally, some researchers developed WWB measures that incorporated both SWB and PWB at work (e.g. Parker & Hyett, 2011). Even though, WWB measures are at the forefront of research in the field of organisational science, only few studies (for example, Devonish, 2013) explored JS and other SWB factors on OCB but no studies to the knowledge of the researcher of this study have explored the influence of both hedonic and eudemonic factors of WWB on OCB.

The research initiatives discussed above are important in clarifying the construct of EWB in the literature. Until now, however, the construct of EWB has been rather ill defined and imprecise in the literature. This thesis therefore posits that, based on the growing literature, EWB should be defined as feeling relatively more positive than negative; as being satisfied in life and functioning positively in life; as well as feeling satisfied and

functioning well at work. This is because an individual may estimate their wellbeing in life generally but the factors that impact wellbeing at work are exclusive to work, such as trust in the organization or leader support. Therefore, to measure EWB, this study includes the measures of SWB in life (Su et al., 2014) and PWB in life (Ryff et al., 1989; Springer & Hauser, 2006; Abbots et al., 2006). In addition, this study includes WWB (Parker & Hyett, 2011), which involves SWB at work and PWB at work. These three wellbeing constructs, SWB, PWB & WWB, provide the broader framework for EWB.

A thorough research investigation revealed that no studies to date have specifically investigated the influence of this broader EWB framework on OCB towards individuals and the organization (Williams and Anderson, 1991; Page & Vella-Brodrick, 2009, Parker & Hyett, 2011). Thus, this study investigates OCB towards individuals and the organization. In particular, the aspect of OCB towards individuals explores OCB towards clients, and OCB towards teammates. Whilst in the literature OCB towards individuals are more commonly tested with colleagues (in this study, OCB towards teammates), the dimension of OCB in service industries towards the customers is of interest to both scholars and practitioners (Bettencourt et al., 2001; Dastyari & Shahabi, 2014). The interest in studying OCB towards customers (in this study, OCB towards clients), however, has recently been renewed. OCB scholars (e.g. Gonzales & Garazo, 2006; Kaplan et al., 2009; Jain et al., 2012) have called for studies examining the influence of wellbeing on customer- or service-oriented OCB. In line with these scholars' research recommendations, this study particularly investigates the influence of employee wellbeing on OCB of the nurses and allied health professionals towards individual clients, in addition to OCB towards teammates and the organization.

Hence, the broad focus of this research is to explore the relationship between, and the influence of EWB of nurses and allied health professionals on OCB towards clients, teammates, and the organization.

The remainder of this chapter outlines the background of the research, followed by the statement of the research problem, and explains the motivation of the researcher to undertake this project. After that, the research objectives are stated, indicating the potential contributions of this study to the theory and practice of wellbeing and OCB of nurses and allied health professionals in Australia. Finally, an overview of the subsequent chapters is presented.

1.2 Background to the research

This research is set against the backdrop of the health sector in Australia. Specifically, this study explores the influence of wellbeing in nursing and allied health professionals on citizenship behaviours towards individual clients, teammates, and the organization. In this section, I share how this backdrop of the health sector and my personal experiences inspired me to explore this line of study.

This exploratory research is undertaken as a Ph.D. study. The topic of wellbeing and its effect on the citizenship performance of nurses and allied health professionals is one of professional interest. As a mental health professional, I have worked in private psychiatric hospitals and private practice in Australia over the last twenty years. During this long period, I have experienced and witnessed the influence of negative affect, work exhaustion, burnout, and stress on nurses and allied health workers. I have noticed their lack of willingness to spend extra time and effort (that is, out of the contracted job tasks) in voluntary, prosocial activities with patients and colleagues and within their

organizations, even though this is expected in organizational behaviour. On the other hand, I have also noticed that having to oblige in such workplace expectations has a negative influence on the psychology of the health professionals. For example, I have seen occasions in which colleagues show overt disappointment at having to share a workspace with a colleague; or colleagues being demonstratively annoyed at having to spend time photocopying a few pages for a patient; or for being asked to voluntarily join a health or extracurricular committee.

Whilst voluntary extra-role behaviours can help one feel positive and create a friendly and helpful work atmosphere, this may not be the case if the worker is already feeling depleted and negative. In such cases, when a worker exhibits irritability with spending extra time and resources, this can imply the worker's poor wellbeing. Research clearly indicates that poor wellbeing, such as low job satisfaction, can influence performance and, therefore, influence important organizational outcomes (e.g. Zeinabadi & Saheli, 2011).

On the other hand, high job satisfaction can translate into a pleasant atmosphere among the staff, improve patient care and subsequently increase patients' overall satisfaction with their health service (Tsai & Wu, 2010; Sharif et al., 2017). Job satisfaction and OCB are related; however, as discussed earlier, job satisfaction is only one aspect of wellbeing. I therefore wondered about the other aspects of wellbeing of nurses and allied health colleagues. Further, I was curious about how such wellbeing variables may influence performance of health professionals such as, organizational citizenship behaviours that benefit individual-level, and organizational-level outcomes (Podsakoff et al., 2009) for a health service. Hence, my personal experiences working in hospitals and mental health

settings directly influenced me to study the literature and undertake this study on the EWB and citizenship behaviours of the nursing and allied health professionals.

In addition, another facet of my work which, motivated this doctoral study is based on the psychological consultations I provide in private practice for nurses and other health professionals who report work-related psychiatric injury. More often than not these psychological injuries are due to reported bullying behaviours and harassment from their supervisors or other work colleagues. In such cases, I recognise that the wellbeing of health professionals (feelings and functioning at work) is considerably influenced by the workplace relations and conditions, which influences work capacity.

Based on these observations, I realized that, despite the presence of work experience, proficient skills, and demonstrated efficiency in tasks, the wellbeing of health professionals is a significant factor that influences performance, including extra-role or citizenship behaviours (that go beyond their formal job obligations). I also gathered that the behaviours outside job descriptions, though discrete and voluntary, are expected in the health sector. For example, I have witnessed colleagues and patients make formal complaints to the hospital managers because of discourteous behaviours of health professionals, which is the lack of such discretionary efforts. On the other hand, I have also witnessed patients' giving positive feedback on the patient-care services they have received, based on the courtesy that staff have shown towards them. These types of helpful discretionary efforts by any employee are termed organizational citizenship behaviour (Organ, 1989) in the literature.

Some ten years ago I was unaware of the formal definition of citizenship behaviours but noticed these behaviours among my colleagues. For example, not complaining about the

shortcomings of workplace equipment; being punctual; taking on extra work if a colleague reports feeling unwell; spending extra time to cater for patient requests; volunteering to be part of committees. I further noted that the nurses and allied health staff who engaged in these kinds of citizenship behaviours appeared to be more positive, smiling, helpful, courteous, and conscientious. The awareness of the presence of both positive emotions, and prosocial activities among my mental health work colleagues motivated me to explore these phenomena, and its possible links further.

Pursuing this interest, I reviewed the literature on wellbeing and its link to citizenship behaviours of frontline health professionals, specifically of nurses and allied health professionals. In this pursuit I reviewed both international and Australian studies and found that research on the influence of EWB on citizenship behaviours of health professionals is scant, sporadic, and only narrowly focused on a few wellbeing variables at work. Further, the literature search identified research gaps and justified the study of the influence of EWB of nurses and allied health professionals on OCB. This justification is further explained in Section 1.3.

1.3 Statement of the problem

The wellbeing literature reports an alarming presence of unhappiness, work stress, job burnout, and emotional exhaustion (e.g. Chiu & Tsai, 2006; Kurt & Demirbolat, 2019; Turnbull & Rhodes, 2019) within the health professionals. For example, Kurt & Demirbolat, (2019) show that nurse burnout and wellbeing are related. Another study by Oates et al. (2017) based in the United Kingdom reports a relatively low level of SWB among a group of registered mental health nurses. In particular, the study reports low life satisfaction, low levels of happiness, and a medium sense of life worthwhileness among

nurses. Further, a systematic review on job satisfaction on critical-care nurses (Dilig-Ruiz et al., 2018) indicates only 56% of these nurses reported job-satisfaction wellbeing at work. This systematic review cautions against the declining wellbeing of nurses worldwide. However, Dilig-Ruiz et al. recommend the need to expand and explore the wellbeing factors of health professionals beyond job satisfaction.

Although there is sufficient research on wellbeing of nurses, there is scant research on the wellbeing of allied health professionals. However, the few studies into this area do indicate that allied health professionals' wellbeing is also poor. For example, an Australian online survey of allied health professionals (psychologists, social workers, occupational therapists, physiotherapists, speech therapists, and other allied health professionals), revealed a significant presence of workplace stress and low life satisfaction, which is a proxy for SWB (Harris, et al., 2006). Recently, Turnbull & Rhodes (2019), in a qualitative study, reported burnout among Australian psychologists resulting from factors such as work stress/demands, absence of job clarity, low autonomy, and lack of respect.

Studies such as the above (e.g. Harris et al., 2006; Turnbull & Rhodes, 2019), indicate that the EWB factors of frontline professionals can be divided into two types. The first type are those factors that deplete wellbeing, like burnout; the second type are those that augment wellbeing, like feeling positive, being satisfied, having autonomy, or feeling supported at work. Whilst there is a robust literature on burnout (e.g. Brand et al., 2010; Van Bogaert et al., 2013; Kurt & Demirbolat, 2019), studies on positive EWB factors are a novel and evolving area of research, especially in the health sector.

Although the research indicates a depletion in wellbeing among nurses and allied health professionals, there appear to be other political, economic, social, and industrial reasons that seem to affect the wellbeing of these health care workers. This is also the case in Australia. For example, a report based on the 'The Australian Future Health Workforce' census (2014–17) indicates that the health care sector faces a burden of nurse shortages. This report cautions that Australia will have a shortage of 85,000 nurses by 2025. The report also indicates poor retention rates among nurses. In addition, the report indicates that the population of the nursing workforce is aging, with the majority of nurses being in the age brackets of 45–54 and 55–64 years.

On top of these alarming trends in the health sector, the general population in Australia is living longer with increased incidences of chronic illnesses, including deteriorating mental health. For example, the Australian Bureau of Statistics (ABS, 2017–18) indicates 2.4 million adults (13%) experienced high levels of psychological distress (an increase from 2.1 million reported in 2014–15); 13.1% of Australians had anxiety-related disorders (up from 11.2% in 2014–15); 10.4% had depression (8.9% in 2014–15). These statistics indicate a need for a robust health care workforce, such as mental health nurses and allied health professionals. This means that health care workers are needed not only to look after the ailing population but also to look after themselves. This is an important factor in the health sector, as the health workers' wellbeing influences their performance, including citizenship behaviours at work.

In view of the statistics outlined above, it is no surprise that individual health care professionals experience work stress and exhaustion, effecting variables of EWB. As Hyde et al. (2013) state, a health organisation

> involves high levels of task interdependence, task complexity and uncertainty, and delivery often depends on the spontaneous actions of employees as they co-produce services with the patient (p. 3115).

In this work milieu there is a greater need for cooperation and a willingness to 'walk the extra mile' in citizenship behaviours beyond formal job requirements. Whilst the skills of the specific health professionals are prescribed, they are not delivered in any predetermined manner. The circumstances under which a client or patient interacts with a nurse or allied health professional is generally unique. In many circumstances, the health decisions and delivery of the services will involve altruistic and conscientious citizenship behaviours.

Citizenship behaviours are therefore thought to be essential in the health sector. Organ (1990) proposed that the effectiveness of service organizations is more dependent on the employees' spontaneous and cooperative acts than on standardized rules and procedures. Following that line of thought, health professionals must cooperate to provide consistent and holistic care for their patients. For example, in a health clinic or hospital, nurses must draw on one another's strengths and/or areas of expertise to engage in patient care. Consequently, active cooperation and coordination are pivotal in the form of citizenship behaviours towards individuals (OCBI), such as towards their teammates and patient/client.

Moreover, the presence of citizenship behaviours towards organizations (OCBO) in the health sector has also been demonstrated in the extant literature and found to be critical in the quality of care. For instance, in one US-based study, the nurses and physicians

demonstrated the presence of high levels of OCBO, such as sportsmanship (tolerating inconveniences without complaints), and conscientiousness (Boerner et al., 2005).

Hence, research on the OCB of health professionals must incorporate OCB towards individuals; for example, teammates/colleagues, patients, and the organization. Support for the study of these three dimensions of OCB is evident in literature. For instance, Williams & Anderson (1991) distinguish between OCB towards individuals such as colleagues (OCBIs) and the organization (OCBO). Further, Brief & Motowidlo (1986) found citizenship behaviours towards organizations are distinct from both citizenship behaviours towards colleagues and citizenship behaviours towards customers. Following the work of these above-mentioned authors, this study explores these three types of OCB in the context of nurses and allied health professionals (towards clients, teammates, and the organization). Using EWB variables as antecedents the study then investigates the influence this has on the organizational citizenship behaviours towards individuals and the organizations.

Section 1.4 outlines the research objectives of this study.

1.4 Research Objectives

1. To contribute to and provide research directions for the theory of EWB and OCB.
2. To provide reasoned recommendations to practitioners to enhance organizational citizenship performances towards clients, teammates, and the organization based on EWB factors.

   Specific research questions are stated in Chapter 2 (p. 112).

1.5 Structure of the thesis

This thesis contains nine chapters. This first chapter has provided the justification for the study and provided some background on the motivation for undertaking it. The chapter has outlined the statement of the problem and the research objectives and now concludes with the structure of the remaining chapters.

Chapter 2 identifies literature on the study variables. Specific attention is given to EWB and OCB. The review of the literature establishes the importance of studying the dimensions of citizenship behaviours of nurses and allied health professionals towards clients, teammates, and the organization. Three types of EWB variables are presented from the extant literature: SWB, PWB, and WWB. Further, the conceptual framework of EWB developed by Page & Vella-Brodrick (2009) is modified, and a broader framework of EWB is proposed in this study. The chapter ends with research questions involving EWB, its variables, and OCB towards clients, teammates, and the organization.

Chapter 3 further reviews the literature to identify the theoretical frameworks that explain 'how' and 'what' wellbeing variables are related to OCB. Specifically, it examines the theoretical mechanisms of Fredrickson's Broaden and Built theory (1998), Hobfoll's Conservation of Resources theory (1989), and Blau's Social Exchange theory (1964) to explain how the EWB variables influence OCB. Chapter 3 then highlights the empirical studies on the links between EWB and OCB variables, which are used to identify research gaps. Following this, nine hypotheses are posited on the relationship, and four hypotheses on the relative influence, of EWB variables on OCB towards clients, teammates, and the organization, in Australia.

Chapter 4 justifies the measurement models for the exogenous EWB variables and the endogenous OCB towards clients, teammates, and the organization. Comparisons are made between formative and reflective measures, and all the study variables are justified as reflective measures. Following this, a conceptual model is drawn linking the exogenous latent precursors of EWB variables (i.e. SWB, PWB, and WWB) and the endogenous latent contextual citizenship behaviours towards clients, teammates, and the organization.

Chapter 5 justifies the methodology of the study. It explains the research design, sampling method, measures used, data collection methods, and procedure. Explanation and justification of the partial least square structural equation modelling (PLS-SEM) as the study's statistical analytical tool is given in this chapter. Following this, an adequate sample size for a valid study in PLS-SEM is indicated, based on the number of pathways from the exogenous wellbeing variables to the dimensional citizenship behaviours. The chapter ends with the ethical issues considered in this study.

Chapter 6 first reports on the preliminary analysis of the data, which involves data preparation, handling missing data, evaluating the normality of the data, identification of and justification for either keeping or deleting outliers. A respondent profile is then created for the sample, and variable means are calculated and discussed. SmartPLS software is used to apply the PLS-SEM analysis of the measurement models. In this, the reliability and validity of the items used to measure the respective predictor wellbeing constructs and the outcome OCB constructs are confirmed.

Chapter 7 reports on the outcome of the application of the SmartPLS analysis to the structural model of the study. The model explores the relation and the influence of the SWB, PWB, and WWB on the OCB of nurses and allied health towards clients,

teammates, and the organization. In this analysis, a blindfolding method is used in the SmartPLS 3 computer software to identify the path coefficients, coefficients of determination, and predictive relevance used to explain the relationships between the latent study variables. Tests of statistical significance are used to accept or reject the study hypotheses.

Chapter 8 discusses the findings of the study in detail. First, the research questions are revisited, followed by discussion on each of the accepted and rejected hypotheses posited in the study. In this evaluation, support is drawn from the literature to explain the expected and unexpected empirical results of this study. The chapter ends with noting the respective research, practical, and methodological contributions of the study.

Chapter 9 summarizes and concludes the main findings of the research. The chapter sheds further light on its limitations and ends with reflections on the future directions of this line of research.

1.6 Chapter summary

This doctoral thesis contributes to the understanding of the importance of the EWB factors of nurses and allied health professionals in determining OCB towards clients, teammates, and the organization in Australia. The chapter provides an overview of the study, discussing the research background and statement of the research problems. It discusses the research objectives of conducting a study on the EWB–organizational citizenship behaviours, and how such a study will contribute to both its theory, and practice. The chapter provides summaries of each of the following eight, logically structured, chapters of the thesis.

The next chapter reviews the literature on the study variables, i.e. on the OCB, and the EWB variables. Research questions are then outlined on those study variables that apply specifically to the nurses and allied health professionals in Australia.

CHAPTER 2

THEORETICAL CONSTRUCTS

2.1 Introduction

Chapter 1 presented the research context in terms of the research background, the statement of the problem, and posited the research objectives of this study for employee wellbeing (EWB) and organizational citizenship behaviours (OCB). This chapter introduces and provides the relevant literature on the definition, nature, dimensions, antecedents and consequences of the study variables. Section 2.2 looks at OCB, followed by the EWB variables.

2.2 Organizational Citizenship Behaviour (OCB)

The concept of work-related behaviours that go beyond one's job description had been identified in the 'human relations era' in the 1930s (Ocampo et al., 2018, p. 825). However, the term 'organizational citizenship behaviour' was not coined until 1983 in a research study by Bateman & Organ (1983). Later, Organ (1988) formally defined this type of employee performance as

> individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization (p. 4).

Since the coinage of this term (Batesman & Organ, 1983) and its formal definition (Organ, 1988), researchers have paid increased attention to these employee behaviours that are over and above their respective job descriptions. For example, in a review paper on the consequences of OCB, Podsakoff et al. (2013) identified 2100 articles in the

Institute for Scientific Information, with half of them published between 2009 and 2013. This popular research trend continues in more recent times. For example, Ocampo et al. (2018, p. 823) reviewed the historical development of OCB from the 1930s to 2017 and found that most journal articles were published between 2000 and 2009, followed by articles published between 2010 and 2017.

Podsakoff et al. (2013) identified three reasons behind the popular trend of OCB research. First, in organizational behaviour literature, OCBs are considered an essential domain of employee performance and are considered an important criterion variable. As Podsakoff et al. (2009, p. 122) stated earlier, 'one of the main reasons for the interest in OCBs is that they are expected to be positively related to measures of organizational effectiveness'. Second, there are various theoretical mechanisms (Bolino, 1999; Grant, 2007, 2008) that explain the 'why' and 'how' of employee engagement in OCB beyond the traditional social exchange approach. Finally, research in OCB has expanded to various disciplines of practice for example, healthcare services and nursing (Chahal & Mehta, 2010; Cavanagh et al., 2012; Chang & Chang, 2010; Feather et al. 2018).

As indicated above, Organ formally coined the term in 1983 with his colleague and defined OCB in 1988. However, the literature indicates a proliferation of many terms that essentially mean the same thing (Ocampo et al. 2018). For example, some other terms and conceptualizations of OCB are 'organizational citizenship' or 'citizenship performance' (Borman, 2004), 'prosocial organizational behaviour' (Brief and Motowidlo, 1986), 'extra-role behaviour' (Van Dyne & LePine, 1998), 'organizational spontaneity' (George & Brief, 1992; George and Jones, 1997), 'voice behaviour' (Van Dyne et al., 2001), and 'contextual performance' (Borman and Motowidlo, 1993). The following paragraphs outline the definitions of these OCB terms.

Borman in 2004 defined

> citizenship performance as behaviors that are not directly related to the main task activities but are important because they support the organizational, social, and psychological context that serves as the critical catalyst for tasks to be accomplished (p. 238).

The examples of such behaviours included volunteering to carry out tasks that are not formally a part of the job; persisting with extra effort when necessary to complete tasks successfully; helping and cooperating with other people on the job; following reasonable organizational rules and procedures even when they are personally inconvenient; and endorsing, supporting, and defending organizational objectives.

On the other hand, Brief and Motowidlo (1986) defined

> prosocial organizational behavior is behavior which is (a) performed by a member of an organization, (b) directed towards an individual, group, or organization with whom he or she interacts while carrying out his or her organizational role, and (c) performed with the intention of promoting the welfare of the individual, group, or organization towards which it is directed (p. 711).

Explaining performance behaviours which are different from in-role performance, Van Dyne & LePine (1998) specified that

> extra-role behavior is positive and discretionary, that are (1) not specified in advance by role prescriptions; (2) not recognized by formal reward systems; and (3) not a source of punitive consequences when not performed by employees.

Van Dyne & LePine (1998) in their study further indicated that supervisors valued such extra-role behaviours especially in dynamic environments. An example of such a dynamic environment is the healthcare sector, in which the nurses work in collaboration with their peers and patients (Feather et al. 2018).

George and Brief (1992) defined a similar term to OCB, which they call organizational spontaneity,

> as voluntarily performed extra-role behaviors that contribute to the organizational effectiveness (p. 311).

Further, these two authors (George and Brief, 1992) stated five forms of organizational spontaneity: helping co-workers, protecting the organization, making constructive suggestion, developing oneself, and spreading the goodwill.

Another type of voluntary OCB that is highly critical to the success of an organization is known as 'voice behaviour', in which the employee makes 'constructive change-oriented communication intended to improve the situation' (LePine & Van Dyne, 2001, p. 326). In a recent paper, Chou & Barron (2017) revisited the definition of voice behaviour and noted that

> employee voice behavior is a discretionary communication of ideas, suggestions, concerns or opinions that attempts to benefit an organizational unit or the organization; ... results in certain change actions undertaken by the recipient, …can have a focus placed upon a past state and future ideal state (p. 1723).

The above quotation indicates that such behaviours may be risky for the employee; however, studies indicate such behaviours are effective, resulting in better managerial decisions, effective problem-solving, and enhanced organizational learning (Chou & Barron, 2017).

Finally, 'contextual performance', coined by Borman & Motowidlo (1997), includes

> volunteering to carry out task activities that are not formally part of the job and helping and cooperating with others in the organization to get tasks accomplished (p. 100).

The authors (Borman & Motowidlo, 1997) in that study, among other sources, heavily borrowed their taxonomy of contextual performance from Bateman & Organ's (1983) 'organizational citizenship behaviours', George & Brief's (1992) 'organizational spontaneity', and Brief & Motowidlo's (1986) 'prosocial organizational behaviours'. The authors proposed five forms of contextual performance: 'persisting with enthusiasm and extra effort as necessary to complete own task activities successfully'; 'volunteering to carry out task activities that are not formally part of own job'; 'helping and cooperating with others'; 'following organizational rules and procedures'; and 'enduring, supporting & defending organizational objectives' (p. 102).

The nomenclature (Borman & Motowidlo, 1993) of contextual performance is very close to OCB, as are the other terms evolving in literature. However, reviewing the proliferation of OCB terms, Organ, in 1997, commented that it is no longer productive to regard OCB as 'extra-role', 'beyond the job', or 'unrewarded by the formal system', and that 'a more tenable position is one that defines OCB much along the lines of what Borman and Motowidlo (1993) called contextual performance' (p. 85). Examining these various

conceptualizations of the term OCB, the one as defined and revised by Organ appears to be the most popular in the extant literature (Podsakoff et al. 2014; Ocampo et al. 2018).

Organ's (1988) original definition of OCB referred to 'individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization'. However, this definition received criticism from other researchers. For example, Morrison, (1994) indicated that OCB are not always discretionary, especially if expected by supervisors and co-workers. This criticism (Morrison, 1994) also makes sense if it is accepted that one of the common and expected characteristics of humankind is helpfulness. In 1997 Organ therefore, redefined OCB as performance that 'supports the social and psychological environment in which task performance takes place' (Organ, 1997, p. 95). Further, in 2006, Organ et al. added to this definition the phrase 'in the aggregate promotes the efficient and effective functioning of the organization'.

According to Podsakoff et al. (2009, 2014), this revised definition of OCB has three advantages. First, it maintains the distinction between the extra-role citizenship performance and the in-role task performance (e.g. Hoffman et al. 2007). However, according to Podsakoff et al. (2014), it also removes the requirement that OCB be regarded as an 'extra-role' behaviour, as it may also occur in the performance of in-role tasks. To that effect, Harvey et al. (2018) state that OCB are

> involving behaviours that help other specific individuals, that help the organization, … and might involve acting in ways or performing tasks at such a high level or with so much care that it exceeds what might normally be expected of employees (p. 57).

This means that OCB, as redefined by Organ (2006), is distinct from task performance. However, at the same time it also implies that OCB and in-role task performances are related. Moreover, the revised definition indicates that extra care is taken over and above one's task performance.

Second, Podsakoff et al. (2009) highlighted that the redefined OCB is closer in meaning to the term 'contextual performance' (as explained above). More recently, Ozcelik & Uyargil (2019) have also commented on the similarity between these two terms, in that OCB

> compared to contextual performance also refers to non-task related work behaviors and activities that contribute to the social and psychological variables of the organization (p. 348).

Ozcelik & Uyargil (2019) assert that both terms—OCB (Organ et al. 2006) and contextual performance (Borman & Motowidlo, 1993)—refer to similar extra-role behaviours, and since contextual performance is also extensively explored in the literature to date (e.g. Hosie et al., 2019), this implies researchers in OCB should at least incorporate both these terms in their literature search in order to widely examine its nature, dimensions, antecedents, and consequences.

Finally, in scrutinizing Organ's revised definition of OCB, Podsakoff et al. (2014) stressed that the newer definition of OCB does not include the phrase 'not.... directly or explicitly recognized by the formal reward system'. This means it avoids the assertion that OCB do not receive formal rewards. Recently, Harvey et al. (2018) has also challenged the point about citizenship behaviours '*not*.... [being] recognized by the formal reward system'.

Since OCB have significant individual-level and organizational-level outcomes that are beneficial for any individual, unit, or organization (Podsakoff et al. 2000, 2009, 2014), it makes sense for OCBs to be incorporated in the reward system. Further, the 'inclusion of discretionary behaviors in performance evaluation can motivate employees when they see their contributions to this effect are valued in the organization' (see Ozcelik & Uyargil, 2019, p. 348), which in turn encourages employees to further invest in OCBs. One reason why employees invest further can be related to their perceptions of fairness (Blau's Social Exchange Theory, 1964) in this kind of evaluation process (MacKenzie et al., 1991; Borman and Motowidlo, 1993; Johnson et al., 2009; Yeh, 2011, in Ozcelik & Uyargil, 2019). Empirical studies over the last thirty years resulted in human resources (HR) departments of organizations to include OCB as performance indicators in performance appraisals and reward systems (Allen & Rush, 1998; Allen, 2006; Becton et al., 2008; Mossholder et al., 2011; and, Zheng et al., 2012, in Ozcelik & Uyargil, 2019).

Further, studies show that specific HR systems can actively encourage OCB among their employees. For example, Mossholder et al. (2011) pointed out that OCB can be inculcated in three types of HR systems, 'compliance', 'collaborative' or 'commitment', that can be matched to the relational or socio-cognitive climate of the organization. For instance, these authors (Mossholder et al. 2011) indicated that in a commitment-based HR system, as found in a service-based industry like nursing, a relational climate for communal sharing can be promoted. This means that citizenship acts can be generated from an 'identification-based trust' among the employees (Mossholder et al., 2011), in teams, and among unit members. Therefore studies such as Allen & Rush (1998), Allen (2006), Becton, Giles & Schraeder (2008), Mossholder et al. (2011), and, Zheng et al. (2012), in

Ozcelik & Uyargil, (2019) both emanate and endorse Organ's (1997) revised definition of OCB as advanced above. This study will also use Organ's revised definition of OCB.

Now that the evolving terminology and definition of OCB by Organ (1988, 1997, 2006) and its implications for practice management has been established, Section 2.2.1 introduces the main dimensions or the types of OCB.

2.2.1 Dimensions of OCB

OCB scholars have explored the various dimensions of OCB (Podsakoff et al., 2014) that are conceptually and empirically different from in-role behaviours (Williams & Anderson, 1991; Hoffman et al., 2007). Some examples of these dimensions are altruism, courtesy, and compliance. Podsakoff et al. (2014) verify that 'Indeed, reviews indicate that there are over 30 dimensions of OCB identified in literature (Coleman & Borman, 2000; LePine et al., 2002; Organ et al., 2006; Podsakoff et al., 2000)' (p. S89). From these OCB dimensions Podsakoff et al. (2014) identified two broad frameworks in the literature. The first framework of OCB is based on the conceptualizations by Van Dyne et al. (1995) and the second is based on the conceptualizations by Williams & Anderson (1991).

The framework, based on the conceptualizations of Van Dyne et al. (1995), divides OCB broadly into the affiliation-oriented OCB (in the literature, AOCB) and the challenge-oriented OCB (in the literature, COCB). According to the authors (Van Dyne et al., 1995), the AOCB are relational and obliging in nature, whilst the COCB contest the existing nature of affairs. This classification of OCB dimensions (AOCB/COCB) looks at 'the essential nature of the behaviours' (Podsakoff et al., 2014) and describes the 'what' of

these contextual performance behaviours. Examples of AOCB towards individuals are cheerleading, interpersonal helping, altruism towards colleagues, peacekeeping, interpersonal facilitation, and interpersonal harmony. On the other hand, examples of COCB towards the organization are compliance, spreading goodwill, protection of company resources, organizational loyalty, voice (challenging existing behaviours, policies, and procedures), taking charge, and advocacy participation.

However, Podsakoff et al. (2014) noted that:

> Interestingly, we did not identify any behaviours that are both challenge-oriented and intended to benefit a specific individual in the organization . . . (p. S90).

Examples of such OCB dimensions are voluntary performance of task activities, job dedication, individual initiative, individual innovation, and Organ's conscientiousness, which are intended to benefit the self. These OCB dimensions (for example, individual initiative) are recognized by the authors (Podsakoff et al., 2014) as 'not particularly interpersonal and cooperative in nature or challenging to the status quo' (p. S90). However, such self-directed OCB directly influence at both individual level and in aggregate (when most employees in a unit engage in such behaviours), and influence unit level and organizational level outcomes (Podsakoff et al., 2014).

In an earlier review, Mackenzie, et al. (2011) observed that among all forms and dimensions of OCB, the most up-to-date OCB research appears to focus on the affiliated OCB, such as 'altruism' and 'courtesy' (Organ, 1988), 'helping and cooperating with others' (Borman & Motowidlo,1993), and on 'interpersonal facilitation' (Van Scotter & Motowidlo, 1996). These studies indicate that the affiliative types of OCB are considered substantial in modern research.

Further, within the framework of affiliated OCB, LePine et al. (2002) noted that Organ's dimensions (1988) are the ones most examined in the literature. These five dimensions (Organ, 1988) are described as follows: 'Altruism' means helping behaviours directed towards specific individuals (for example, helping others with workload); 'conscientiousness' means behaviours that help others in the organization follow rules and expectations (for example, being punctual); 'courtesy' means behaviours that prevented potential problems (for example, alerting a supervisor to a need to thwart problems); 'sportsmanship' means not complaining about work conditions; and 'civic virtue' indicates employee involvement in the dynamics of an organization (for example, serving on an OHS committee). These dimensions (Organ, 1988) are most examined because they have a sound body of peer-reviewed publications (Harvey et al., 2018). Accordingly, they have comprehensive standardized measures (developed by Podsakoff et al.,1990; Williams & Anderson, 1991) and the behavioural dimensions are generalizable across various situations and organizations (LePine et al., 2002).

However, a recent review by Harvey et al. (2018) perceived that whilst the growth in OCB terminology has been diverse, there is little consistency in the types of OCB investigated. Though some studies look at all of Organ's (1988) five dimensions, others focus on only one or two. Yet other scholars have combined Organ's dimensions with other OCB types. For example, LePine et al. (2002) observed that in their meta-analysis (between 1980 to 1999) of OCB (defined by Organ's dimensions), only 31 out of 113 studies reported 'relationships among at least two of the five dimensions' to their respective correlates (p. 56). Only 12 of these studies included relationships among all five dimensions (LePine et al., 2002). Moreover, even in studies that have defined a general OCB measure, their compositions have varied. For example, in a review by

Podsakoff et al. (2014), the authors note that 54% of their articles measured a composite OCB made up of different types of OCB dimensions. And Zhang et al. (2008) in their study created composites from measures of altruism, courtesy, civic virtue, sportsmanship, and conscientiousness, whilst the research paper of Chen et al. (2005) on group OCB involved the dimensions of helping, voice/initiative, loyalty, conscientiousness, and courtesy.

Hence, in the literature, different scholars have put differential emphases on some of these dimensions. For example, Podsakoff and Mackenzie (1997) considered helping behaviour, sportsmanship, and civic virtue to be significant in explaining OCB. On the other hand, Hannam and Jimmieson (1999) considered that OCB is a function of organization compliance and individual initiative along with Organ's three dimensions of altruism, conscientiousness, and civic virtue. These various types of OCB, including those described in the paragraphs above, represent the different groups of extra-role behaviours but do not indicate who might benefit from such behaviours. Following this notion, a considerable amount of OCB research is on targeted beneficiaries (Spitzmuller et al., 2008) and has formed the basis of the second framework identified by Podsakoff et al. (2014) on the dimensions of OCB.

This second framework looks at who might directly benefit from these extra-role behaviours. In their review Podsakoff et al., (2014) classify the variously researched dimensions into categories based on who (for example, individuals and the organization) might benefit from the identified affiliation-oriented citizenship behaviours (AOCB) and challenge-oriented citizenship behaviours (COCB). AOCB towards individuals are examples of Organ's (1988) altruism and courtesy; COCB towards organization are

examples of Organ's (1988) sportsmanship and civic virtue (for instance, voluntarily attending meetings).

Based on the notion of beneficiaries of OCB, Williams and Anderson (1991) originally proposed and empirically tested the framework comprising two dimensions of OCB: (1) OCBI—OCBs directed towards individuals (altruism and courtesy); and (2) OCBO—OCBs directed towards the organization (conscientiousness, sportsmanship, and civic virtue). Later, Coleman & Boreman (2000) proposed three broad dimensions of OCB: interpersonal citizenship performance (for example, helping co-workers), which is similar to OCBI; organizational citizenship performance (for example, following organizational rules), which is similar to OCBO; and job/task conscientiousness (for example, putting extra effort to complete tasks successfully). However, the OCBI/OCBO distinction noted by Williams and Anderson (1991) remains influential in the recent studies of citizenship (Podsakoff et al., 2009; 2014).

Nevertheless, some scholars (LePine et al., 2002; Hoffman et al., 2007) have empirically opposed the concept of the multidimensional view of OCB and argued for a unidimensional OCB. Section 2.2.1.1 examines the literature on the unidimensional view of OCB and offers an argument to support the multidimensional OCBI/OCBO framework.

2.2.1.1 OCBI and OCBO—An argument to support the framework

Researchers have argued against the concept of OCBI and OCBO as independent dimensions of OCB. For example, a meta-analysis by LePine et al. (2002) showed that there is little justification in studying the various OCB dimensions. They contend that OCB is a latent variable (such as personality trait) that reflects itself in various ways and

is not an independent facet of OCB. Hence, these dimensions are highly related to one another as they are measuring the same thing. Further, LePine et al. (2002) proposed that the relationship between the OCB construct would not covary with its common predictors, satisfaction, commitment, fairness, leader support, and conscientiousness. Moreover, these authors propose that the specific dimensions would not covary with these common predictors either.

More specifically, in their meta-analysis, LePine et al. (2002) chose 37 studies that included at least one of Organ's five dimensions, and no less than one common predictor. The authors found that the dimensions sportsmanship, civic virtue, courtesy, and conscientiousness are highly correlated with altruism, but the relationship between sportsmanship and civic virtue is low. Further, in testing the distinctiveness of the correlates of overall OCB, LePine et al. (2002) found that the corrected population estimate of relationships ranges from 0.20 for commitment to 0.32 for leader support; and the between-studies variances, though small, are significant. However, when the authors compare estimates of relationships between each of the common predictors to either overall OCB or a specific dimension of OCB, they found that the differences are insignificant; although, only three significance differences are found in the results. These include the correlation between the commitment and overall OCB, commitment and courtesy, and commitment and sportsmanship. Nevertheless, LePine et al. (2002) maintained that OCB is unidimensional and that any difference obtained across studies in the meta-analysis is due either to the presence of other moderators, to methodological or sampling error, or to the imperfect indicators of OCB—but to nothing substantive (p. 55). The limitation of LePine et al.'s (2002) meta-analysis is that it is driven by correlations between the OCB dimensions and does not test a model for OCB as a single latent factor.

This methodological flaw in the meta-analysis by LePine et al. (2002) was addressed by Hoffman et al., (2007). Hoffman et al. (2007) used confirmatory factor analysis (CFA) to investigate the relationships between OCBI, OCBO, task performance, and attitudinal predictors such as job satisfaction, organizational commitment, and the three dimensions of organizational justice (procedural, distributive, and interactional). The authors in their meta-analysis (Hoffman et al., 2007) found the following results: CFA confirmed a single-factor model of OCB, and the single-factor latent OCB shared a modest covariation with the predictive correlates. Further, there was a strong correlation between OCB and task performance. Therefore, the study by Hoffman et al. (2002) provides findings that support the view that it is pointless to maintain a distinction between OCBI and OCBO. Additionally, several studies cite LePine et al.'s and Hoffman et al.'s unidimensional concept to support their general OCB measures, even though their OCB measures may include a composite of two or more dimensions. However, in the OCB literature there are studies that contradict unidimensional OCB and instead support the OCBI/OCBO framework.

Several studies indicate that OCB is a multidimensional construct, comprising two distinct dimensions, OCBI and OCBO. For example, Ilies et al. (2007) find that the diverse variables of OCB vary significantly in their relationship with common antecedents such as leader–member exchange, positive affect, conscientiousness, and agreeableness. For instance, Ilies et al. (2007) reported that leader–member exchange had a stronger relationship to OCB towards individuals (OCBI) (rc = 0.38) than to OCB towards the organization (OCBO) (rc = 0.31). In another study Halbesleben and Bowler (2007) found that emotional exhaustion is negatively related to OCBO but positively related to OCBI, irrespective of the sources of the data (i.e. one source versus more than

one source, such as, self, peers, and supervisors). Thus, Ilies et al. (2007) and Halbesleben & Bowler's (2007) studies indicated that the respective antecedents of these studies, i.e. leader–member exchange and emotional exhaustion, had a differential relationship between OCBI and OCBO. This justifies the relative status of OCBI and OCBO as distinct independent citizenship behaviour constructs.

Further, in another study Chandrakumara et al. (2010) demonstrated that OCBI and OCBO are distinct constructs in which cultural values relate differentially to the different dimensions of citizenship performance. Cultural values, like masculinity and power distance, are examined as antecedents of OCBI and OCBO. In the study, masculinity is defined as 'assertiveness, the acquisition of material things, competitiveness, and a lack of concern for others' and femininity in individuals is described as possessing modest and caring values (p. 34). Another factor in that study is power distance, described as perceived inequality that 'reflects the extent to which members of a society express a perception of the unequal distribution of power in organisations and institutions' (p. 34). The results of the study revealed that masculinity relates positively to citizenship performance towards the organization (OCBO) but negatively towards citizenship performance towards individuals (OCBI); whereas power distance does not relate to citizenship towards individuals (OCBI) but relates negatively to citizenship towards the organization (OCBO). Chandrakumara et al.'s study demonstrates that the differential outcomes of these antecedents on OCBI and OCBO would not have occurred if these antecedents measured a unidimensional OCB construct. As discussed above, therefore, various researchers (Andrews & Williams, 1991; Van Dyne et al., 1995; Ilies et al., 2006; Halbesleben and Bowler, 2007; Chandrakumara et al., 2010; Podsakoff et al., 2014) have defended the OCBI/OCBO multidimensional framework.

Podsakoff et al. (2014), however, pointed out the limitations of the OCBI/OCBO framework. First, the authors indicated that since OCBI and OCBO involve the beneficiaries of these extra-role behaviours, the framework is limited because it does not specifically indicate the relative influence of its associated dimensions. This means that the results from such OCBI/OCBO research do not indicate the specific role of the OCB dimensions. In addition, practice managers are unable to focus on improving the specific areas of OCB that may need remediation. Nevertheless, the paradigm of OCBI/OCBO is important in the literature as it examines the beneficiaries of OCB in the context of their specific antecedents, correlates, and consequences.

Podsakoff et al. (2014) detected another limitation of the OCBI/OCBO framework: when the level of analysis is expanded from individual level to group or unit level, the distinction between OCBI and OCBO vanishes. They argue that when employees in a unit collectively display helping types of OCBI, collaboratively helping one another in the team, this must benefit the organization by increasing the performance of that unit. Podsakoff et al. (2014) thus maintained that:

> Indeed, one could argue that at the unit level of analysis, helping behaviours would more directly benefit the organization, than attending and participating in meetings… (p. S91).

This means that although at individual level the OCBI/OCBO distinction can still be valuable in isolating the respective antecedents and consequences, at a group level this distinction will not apply as OCBI transform to contextual performances that benefit the organization; that is, they transform to OCBO.

Despite the limitations of the OCBI/OCBO framework, the OCB paradigm of the beneficiaries of OCB is still popular in the literature (Brief & Motowidlo, 1986; Spitzmuller et al. 2008; Ocampo et al., 2018; Harvey et al., 2018) and beneficial. Specifically, the OCBI/OCBO research is valuable when the object of the research is to identify the presence and extent of these valuable performances in specific beneficiaries. This may be the case in negative workplace trends such as labour shortages, in which the differential OCBs towards co-workers, customers, and the organization become essential to monitor for the effective functioning of the organization. Further, Harvey et al. (2018) in their review reported a study by Klotz et al. in 2018 that suggests:

> employees in different organizations may engage in different patterns of citizenship depending on the organizational context (p. 57).

One such type of organization where OCBI/OCBO research can play an important role is in the health sector—a sector burdened with global labour shortages, low levels of wellbeing, high burnout, and high turnover, with the consequent high cost to organizations and the nation. These factors are addressed later in this chapter.

Within the OCBI/OCBO framework, it is noteworthy that until recently the literature on OCBI was mainly concerned with colleagues, supervisors, or managers (for example, Tepper & Taylor, 2003; Hosie et al., 2012). Research on OCBs towards customers has only recently become popular as a result of the growth and development of the service industry. There is a wide scope for research on OCBs towards customers or clients in view of the importance placed on customer satisfaction and customer loyalty, which in turn effects the service quality, fiscal benefits, and organization reputation of an organization (Podsakoff et al., 2014; Johnson et al., 2018).

Specifically, in health the study of OCB of health professionals, and its' effect in optimizing work environment, and on quality of patient care is promising (e.g. Feather et al. 2018). Indeed, recent research interest in profiling different OCB in different occupations (Klotz et al., 2017) also has implications for research in the development and validation of OCBI/OCBO measures for nurses and allied health professionals towards their customers. Although no specific measures of OCBI/OCBO of health professionals have been noted in the literature to date, studies are currently undertaken in the development of its theory (Bettencourt et al., 2001; Ocampo et al., 2018; Harvey et al., 2018), and in exploring the OCB of health professionals (Chu et al., 2005; Chang et al., 2011; Kim et al., 2012). The next section describes significant literature on the development of this type OCB toward individuals, i.e. OCB toward customers or clients.

2.2.1.2 A varied dimension of OCBI—Customer-oriented OCB

A growing focus on service industries over the last two decades has resulted in more significance being attached to service-oriented employees' behaviours (Yoon & Suh, 2003). This new focus has consequently given birth to a different dimension of citizenship behaviours in the workplace, known as customer-oriented OCB or service-oriented OCB (Arrowsmith & McGoldrick, 1996; Bettencourt et al., 2001).

As the name indicates, customer-oriented or service-oriented OCB are extra-role, volunteering citizenship behaviours of employees towards their customers. This dimension of OCB has attracted central attention in the service industries; for instance, in academic, medical, and financial institutions (Dirican and Oya, 2016; Ocampo et al., 2018). Employees in direct contact with their customers who demonstrate OCB types of helpful behaviours increase customer satisfaction and consequently customer loyalty

(Dastyari & Shahabi, 2014). Further, quality of service is a benchmark for competitive advantage and is often judged or influenced by the way in which employees treat their customers (Bettencourt et al., 2001).

In the development of the OCBI towards customers construct, Borman and Motowidlo (1993) are among former scholars, who have observed that some OCB are better suited to the service industries as these industries have special requirements for dimensions related to transacting with customers and exemplifying the organization to outsiders. Later, Bettencourt et al. (2001) defined the service-oriented OCB as those behaviours that are customer-directed and service-oriented, specifically performed by customer-contact employees.

Further, to examine what types of extra-role behaviours might describe such customer-focused OCB, Bettencourt et al. (2001) identified three forms of service-oriented OCB. These are loyalty, service delivery, and participation, which are explained in the following way. 'Loyalty', for example, tells outsiders that this is a good place to work. An example of a loyalty OCB in a hospital context could be a nurse's demonstrating allegiance to his/her workplace by telling others that it is a good hospital offering quality care. 'Service delivery' is about employees' following customer-service guidelines with extreme care. Two examples of this kind of service-oriented OCB are a health worker's toleration of customer frustration (which is a 'sportsmanship' type of OCB), or a health worker's checking on customer satisfaction (which is a 'courtesy' type of OCB) outside his/her job tasks. 'Participation' is the encouragement of co-workers to contribute ideas and suggestions for service improvement. An example of this type of service-oriented citizenship participatory behaviour is volunteering time in a quality-improvement committee (which is a 'civic virtue' type of OCB).

Irvine (1995) conducted a semi-structured interview, where 39 employees, involved in quality control teams, were drawn from two hospitals in Canada. Exploratory factor analysis showed that the two factors influencing 30% of OCB were 'OCB directed towards individuals within the organization', and 'organizationally directed OCB'. The Cronbach alpha for the items of these two factors were 0.88, and 0.71 respectively. The first factor in Irvine's study, i.e. 'OCB directed towards individuals within the organization' included items that measured the hospital employee's extra-role behaviours in assisting patients, family members of patients, visitors and other employees within the organization. Irvine's second factor, i.e. 'organizationally directed OCB' consisted of impersonal form of extra-role behaviours. The sample size in the study on this group of hospital employees was small and not specifically on nurses and allied health professionals. However, the measurement items in the study showed high reliability. Given the dearth of measures in patient-oriented OCB, the study (Irvine, 1995) therefore, needs further validation.

Whilst past OCB research has focused on individual colleagues, team, supervisors, and managers, contemporary research is highlighting the importance of studying customer-focused OCB (e.g. Irvine, 1995, Bettencourt et al., 2001). In this study, items are adapted from Irvine's (1995) measure of OCB in hospital settings that involved extra-role behaviours toward patients and family members. Since this study is on nurses and allied health professionals the term clients are deemed more appropriate than patients. The health industry incorporates psychologists, physiotherapists, and the like, therefore, the terms patients and clients are used synonymously. The OCB construct in the study is thus categorized as OCB towards clients.

Having now established the OCB dimensions of interest towards individuals and the organization, the next section examines the literature that describes the positive (and negative) outcomes of OCBs. The literature in question presents findings on how OCBs can make a workplace effective, efficient, and thriving. The literature on negative consequences (if any) of OCB will also be examined.

2.2.2 Outcomes of OCB—Why OCB are important in organizations

In the current work climate of a global, fast-paced economy, financial crises, consequent company mergers, and downsizing, the operating motto of organizations is 'do more with less'. Consequently, organizations have increasingly expected employees to demonstrate pro-organizational behaviours beyond their salaried income and job descriptions in order to improve individual and organization level effectiveness. Two examples of such voluntary job performances are an employee's taking responsibility for an absent colleague, and an employee's prioritizing a weekend to spend on a company event. Employees who demonstrate these helpful behaviours voluntarily in the form of general OCB, OCBI, and/or OCBO enrich the psychosocial work environment in which work tasks are performed (Organ, 1997). Specifically, this means that discrete and voluntary extra-role acts, such as 'cooperation, helpfulness, suggestions, gestures of goodwill, altruism' (Smith et al., 1983), form the 'psychological' and 'social' fabric in which task performances can take place effectively (Organ, 1997).

OCB influence both individual-level, unit-level, and organizational-level outcomes (Podsakoff et al., 2009; 2014). Outcomes of OCB are of substantial interest to researchers for three main reasons: (1) OCB influence organizational effectiveness (Podsakoff et al., 2009; 2014) and therefore effect the bottom line of organizations; (2) Not all OCB

outcomes are positive. For example, the literature indicates the potential dysfunctional consequences of OCB, such as increased levels of workload, stress, and work–family conflicts (Bolino & Turnley, 2005); and (3) They evaluate the relative importance of OCB over in-role performance in reward allocation decisions and performance evaluations.

In this context, Podsakoff et al. (2009) examined 168 independent samples (that is, more than 50,000 employees in their meta-analysis) and reported that OCB are related to a number of individual-level outcomes such as managerial ratings of employee performance, reward allocation decisions, employee turnover intentions, actual turnover, and absenteeism. For example, OCB effects the performance evaluations and reward-allocation decisions of managers (Podsakoff et al., 2000). The reasons for this are: (1) OCB such as helping, civic virtue, and sportsmanship make the manager's own job easier. (2) OCB are indicators of the extent to which an employee may be motivated to make effective contributions to the organization. Further, managers like employees who engage in OCB and hence, as 'social exchange', they may reciprocate (Blau, 1964) favourably in performance evaluations. Consequently, employees who engage in OCB get more rewarded than employees who engage in lower levels or no OCB.

Further, productivity, efficiency, reduced costs, customer satisfaction, and unit-level turnover are organizational-level outcomes of OCB (Podsakoff et al., 2009). For example, OCB are positively related to unit-level or organizational-level effectiveness that yields higher production quantity, efficiency, profitability, and the reduction of costs. In this direction, Podsakoff et al. (2009) postulate that when an employee engages in civic virtue (or voice behaviour), for example, in making useful cost-reducing suggestions, it can free up the manager to spend more time in strategic planning, and at the same time improve the effectiveness of the workplace.

OCBs are also related to customer satisfaction (Chang & Chang, 2010; Sutharjana et al., 2013). Employees who display conscientious types of OCB towards customers are, therefore, more likely to have read and be more knowledgeable about the organization's policies and procedures. In addition, workers who display greater courtesy towards customers are likely to earn more customer loyalty in return (Sutharjana et al., 2013, Feather et al., 2018). Further, Podsakoff et al. in their 2009 meta-analysis, report Yen and Niehoff's (2004) findings that

> . . . employees who exhibit civic virtue or voice behaviour by providing ideas on how to improve customer service' or 'help the team deal effectively with conflicts (peacekeeping) and avoid making petty complaints (sportsmanship) (p. 126),

focus on customer-related needs that increase customer satisfaction. Earlier, as explained above, Bettencourt et al. (2001) developed specific service-oriented OCB, whilst Irvine (1995) developed the OCB measure for hospital employees, indicating both forms of OCBI and OCBO respectively.

At a group or unit level, OCB involve helping colleagues and managers, and they also involve resolving problems and preventing and mitigating risks. These OCB, therefore, are likely to generate relatedness, belongingness, and positive relations at work. Indeed, when employees feel a sense of belonging to their work unit or workplace, they do not want to leave the company. Podsakoff et al. (1996) reported on the positive association between group cohesiveness that reduces turnover.

Feather et al. (2018) reported a few studies on the outcomes of OCB in relation to prosocial behaviours of nurses. For example, a study by Sutharjana et al. (2013) revealed that OCB have a significant positive effect on service quality and patient satisfaction,

whilst patient satisfaction mediates the relationship between OCB and patient loyalty. Further, OCB prompted by social ties increase work satisfaction and alleviate work stress (Tsang et al., 2012); whilst, Vogus and his colleagues (2007, 2014, 2016) associated the benefits of OCB in nurses with patient safety and reduction in numbers of medication errors and patient falls.

Most of the OCB research in the literature, as presented above, is focused on outcomes of managerial interests (Kumar et al., 2016) such as employee reward allocations and performance evaluations, and much has been said on the individual, unit, and organizational level outcomes. However, there appears to be a gap in the research on individual-level outcome, namely mental health that involves both wellbeing and ill-being (Keyes et al., 2002). In response to this research gap, Kumar et al. (2016) examined the influence of OCBI and OCBO on burnout, relatedness, and psychological health among working executives which represented EWB. These outcome variables are defined as follows: 'Burnout' is a symptom of emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment, occurring in employees who are involved in human interactions. 'Psychological health' is an individual's 'affective experiences, which interact with associated cognitive states, processes, and judgements about one's life, oneself and the future' (p. 597). 'Relatedness' is a concept borrowed from Deci & Ryan's (2000) 'Self-determination theory'. This theory indicated that the psychological need satisfaction of relatedness leads an individual to function optimally in life.

Analysing 389 usable responses from their web-based survey, Kumar et al. (2016) found that OCBI is positively related to relatedness need satisfaction—a variable of PWB; on the other hand, OCBO is positively related to psychological health—a variable of SWB. Apart from common method bias and gender bias (5% female), the study may be

compromised by the cross-cultural use of the measures (e.g. Williams & Anderson, 1991). This point is especially noted by the authors, Kumar et al. (2016), in which they find problems with the negatively worded items in OCBO and psychological health constructs, which lead to disruption of dimensionality of these respective measures. Since the issue of mixed statements in measures (positive and negatively worded statements on the Likert scale) reduces the possible agreeableness in participant responses, it has been critiqued to lessen a scale's internal consistency and disrupt its dimensions (For details, see Wong et al., 2003). The study by Kumar et al. (2016) thus alerted future researchers to this method artefact, and further recommends the examination of the reciprocal relationships between individual-level EWB variables, OCBI and OCBO.

The above mentioned literature on outcome studies of OCB implies that an organization's quality and quantity improvements can be achieved through employees' engagement in OCB, and that such effective change can be observed in its individual-level, unit-level, and company-level consequences (Podsakoff et al., 2000, 2009, 2014). Specifically, contemporary studies (e.g. Kumar et al., 2016) have examined both the positive outcomes such as wellbeing and the negative outcomes such as burnout at the individual-level outcomes of OCB. The research interest in the negative outcomes of OCB are, however, more recent. Researchers (e.g. Bolino et al., 2005, 2013, 2015; Klotz et al., 2013, 2018; Harvey et al., 2018) are investigating when and why OCB may lead to negative consequences that can be harmful or counter-productive for the employees, co-workers, team and the organizations. Following this line of thought, Section 2.2.2.1 looks at some of the interesting research on the negative consequences of engaging in OCB, and the concept of citizenship fatigue is introduced.

2.2.2.1 Can OCB lead to negative consequences?

Even though OCB are voluntary extra-role behaviours, the inclusion of OCB as performance markers and in the reward-system has made participation in OCB activities an unwritten organizational expectation. Current research, however, has started to challenge the status of OCB as an 'inherently positive' construct (e.g. Bolino et al., 2005, 2013; Klotz et al., 2013, 2018; Harvey et al., 2018). In a review of the positive and negative outcomes of OCB, Bolino et al. (2013) referred to studies in which OCB lead to 'costs' such as stress, role overload, work–family conflict, increased intention to leave, reduced performance, reduced salary, and increased negligent behaviours. Further, Bolino et al. (2013) indicated that having to engage in OCB could result in conditions such as boredom, which could trigger deviant behaviours in the organization. This can occur because engaging in OCB can cause a depletion of an employee's resources—such as time, energy, and effort—which in turn can bring about increased employee job strain, stress, and job burnout (Bolino et al., 2013). OCB have also been associated with negative 'personal-level' outcomes such as job dissatisfaction and intention to leave (Podsakoff et al., 2007).

Bolino et al. (2015) proposed and empirically tested the concept of 'citizenship fatigue' and its relationship to OCB in the presence of three other organizational factors: perceived organizational support, team-member exchange relationships, and citizenship pressure. In their study on Taiwanese private university professors and lecturers, Bolino et al. (2015) defined citizenship fatigue as 'a state in which feeling worn out, tired, or on edge is attributed to engaging in OCB' (p. 57). The authors found that the relationship between OCB and citizenship fatigue is strong and positive when perceived organizational support is low. This meant that where there was a lack of support from an organization, engaging

more in OCB meant a rise in citizenship fatigue. The other finding is that OCB and citizenship fatigue is strong and negative when the quality of team-member exchange relationships are high and when citizenship pressure is low.

This study by Bolino et al. (2015) indicated that employees engage increasingly in OCB with less citizenship fatigue when they feel supported in the team and there is no pressure from the organization to commit to OCB. Whilst the study differentiated citizenship fatigue from other depleting wellness processes such as burnout and work overload, the authors acknowledged its developed measure is new and in need of validation studies. The cross-sectional survey-based study was methodologically controlled as it measured outcomes from two sources, employees and peers, and collected data at three points in time. However, the study by Bolino et al. (2015) alerted future researchers to two of its limitations. First, the study was conducted in a collectivist country, which means individuals may be motivated by pro-social OCB motives rather than impression-management motives (as shown in Moorman et. al., 1995). Second, only three dimensions of OCB—helping, voice (both from Van Dyne & LePine, 1998), and individual initiative (from Bolino & Turnley, 2005)—are tested, which opens the door to future research exploring other dimensions and frameworks (such as OCBI and OCBO). Another interesting viewpoint on the negative consequences of OCB was proposed earlier by Klotz and Bolino (2013), who indicated that employees who engaged in positive OCBs permit themselves to engage in counterproductive behaviours (for example, stealing), as a moral trade-off for behaving well.

Indeed, studies such as Podsakoff et al. (2009, 2014), and Kumar et al. (2016) mean that organizations can encourage OCB in their employees for positive outcomes, but they must also be on the lookout for its negative consequences and factors related to it (Bolino

et al., 2013, 2015). It appears however, that organizations can prevent and mitigate the risk of such negative consequences by ensuring adequate EWB (for example, Kumar et al., 2016) to cope with OCB and some of its negative the consequences.

The literature shows, as has been outlined above, that OCB are believed to be crucial for organizational accomplishments, provided the OCB have been meaningfully associated with individual level, unit level, and organizational level outcomes. Section 2.2.3 looks at some of the main antecedents that elicits such behaviour. Since the subjects of this study are nurses and allied health, a separate section will consider the available literature (if any) on the antecedents of OCB in the health profession, especially in relation to nurses and allied health professionals.

2.2.3 Predictors of OCB

As OCB are important for organizational success, their main antecedents have long been the focus of research (Organ et al., 2006; Chahal & Mehta, 2010). Moreover, in a recent review of OCB, the essential antecedents are presented by Harvey et al. (2018) in four categories: prosocial values (based on individual's care for others); organizational concern (based on individual's care for the organization, prosocial values, and traits); impression management (individuals want to be valued by their employers); and sense of obligation (based on conscientiousness). Of these four categories of OCB motives, Harvey et al. (2018) borrowed the first three categories from Rioux and Penner (2001), and then added a fourth category of 'duty or obligation'.

Studies of these four categories use a variety of precursors of OCB. For instance, OCB due to prosocial motives can involve positive mood (e.g. Staw et al., 1994; Lee & Allen,

2002). In this respect, personal propensities such as emotional intelligence, locus of control, and mental health (Ng et al., 2014) can also serve as prosocial motives for OCB. OCBs due to organizational concern involve job satisfaction (Chiu & Chen, 2005; Davar & Ranju, 2012), organization commitment (Zainabadi, 2010), and organizational justice (Jafari & Bidarian, 2012; Chan & Lai, 2017). Further, the personality trait of conscientiousness can create a sense of compulsion to engage in OCB because it is the dutiful thing to do (Chiaburu et al., 2011). However, pressure at work to engage in OCB can also be obligating (Bolino et al., 2010). Many OCB studies, therefore, look at more than one motive, and their interactions with their precursors for why employees engage in OCB. For example, Grant & Mayer (2009) found that impression-management motives strengthened the relationship between prosocial values and affiliative OCB, namely helping and courtesy; but weakened the relationship between prosocial values and the type of OCB that challenge the status quo, such as voice.

Moreover, the role of demographic characteristics such as age, gender, job-level, and tenure in OCB has recently been reviewed by Ocampo et al. (2018). Since governments have raised the retirement age of their citizens, and the population in many countries, including Australia is aging, this may mean that organizations are faced with having to ensure efficient performance from their mature-aged workforce. In regard to OCB, Ocampo et al. stated that researchers have postulated that differences in age affect the likelihood that an employee will display OCB (p. 839). Older people may be more inclined to engage in OCB for prosocial motives, such as imparting their knowledge to their younger colleagues, than for impression management, investing their time and energy into challenging the status quo of the organization (Huang et al., 2015). On the other hand, researchers (Ocampo et al., 2018) have argued that younger employees may

engage in OCB more than their senior colleagues, as they coordinate their needs with organizational need more flexibly, whereas older employees tend to be more rigid in adjusting their needs to those of the organization.

Research also reports that high and higher-ranked employees engage in more OCB than their juniors (Dirican & Oya, 2016; Morrison, 1994). As a result, junior employees may be conditioned to engage in OCB. Meanwhile, Lin (2008) reported that younger employees tend to be more courageous by the virtue of their age and engage in OCB that challenge the status quo of the organizations. In addition, Wright & Bonnet (2002) proposed that long-tenured employees are more willing to engage in OCBs owing to their strong interpersonal relationships with their colleagues, supervisors, and the organization. As for gender, Ando & Matsuda (2010) found that when women perceived fair treatment, they reciprocated by engaging more in OCB than their male colleagues. This may be because, as Mathur (2013) explained, women are more concerned than males about being treated well.

Whilst the above paragraphs looked at predictors of OCB in the general literature, the next section draws attention to some of the specific predictors of OCB studied in the health sector.

2.2.3.1 OCB in health care

Studies (e.g. Chu et al., 2005) have pinpointed four reasons why the OCB are important in health care. These reasons may be summarized as follows: First, customer preferences are changing, and health care services are both getting more integrated, and more diversified (hospitals, clinics, GP surgeries) at the same time. For example, contemporary

GP surgeries are not restricted to physicians, but comprise various allied health services such as psychologists, sonographers, and dieticians. Second, quality health care services require effective interactions and collaboration among the experienced health care professionals, Third, there are limited resources in health (for instances, nurse shortages); and finally, there is a corporate responsibility to deliver quality health care services. In addition to the reasons outlined above, health care services who want to gain a competitive advantage need to engage in OCB to help their colleagues, patients, and the organizations function effectively.

Despite the importance of OCB in the health sector, research on OCB in this sector appears scant and sporadic in the literature. For example, in a review by Feather et al. (2018) covering studies over 36 years (from 1980 to 2017), on the effects of prosocial behaviours and performances of nurses, only 66 articles specifically involved OCB. Further, in this review, only 19 articles specifically examined, Organ's five dimensions of OCB, and in which, OCB was either described as a composite 'general' OCB construct, or as specific dimensions, or as OCB towards targeted beneficiaries in nursing, indicating the lack of consistency of how the term OCB is used in the literature.

In the review by Feather et al. (2018), the distribution of the 19 studies is as follows: Only one in 2007 (Vogus & Sutcliffe); three in 2008 (Chien et al.; Chen et al.; Lievens et al.); three in 2010 (Altuntas & Baykal; Boselie; Chang & Chang); one in 2011 (Chu & Hsu); three in 2012 (Cohen et al.; Nielsen et al. Tsang et al.); two in 2013 (Hyde et al.; Sutharjana et al.); three in 2014 (Clark et al.; Vogus et al.; Kanten et al.); two in 2015 (Hammer et al.; Mattson et al.); and one in 2016 (Vogus & Iacobucci). The review by Feather et al. (2018) is restricted by its inclusion criteria, and a larger number of studies could have been extracted if alternative terms for OCB such as contextual performance

(Borman & Motowidlo, 1993) had been included. Nevertheless, the review by Feather et al. (2018) indicate the paucity of OCB research in the health sector.

Based on Organ's dimensions of OCB, Feather et al. (2018) explained how these extra-role behaviours may present in the health settings of nurses and related professionals. In the light of the examples of the dimensions of OCB in nurses given by Feather et al., it can be said that health professionals can demonstrate 'altruism' by helping a colleague with a difficult client. Thus, a ward boy may be helped by a nurse when shifting a heavy client from a ward trolley to a bed. Further, health professionals can demonstrate 'conscientiousness' by avoiding time-wasting activities or by carefully observing the safety policies and procedures to prevent incidents such as patient falls. On the other hand, health staff may demonstrate 'sportsmanship' by mentoring new staff or avoiding defiant behaviours such as harassment and bullying. Attending case conferences and workshops by colleagues during rostered time off demonstrates 'civic virtue', whilst debriefing co-workers when they experience a work-related trauma is an example of 'courtesy'. Courtesy and civic virtue OCB could involve providing safe patient handovers beyond task inventory or alerting co-workers to subjective observations of overt suspicious patient behaviour (for instance, not attending therapy groups, slurring or drowsiness not triggered by medication). Future studies in OCB of health professionals can, therefore, identify specific OCB measures that adapt to a variety of health-related jobs (for instance, for nurses versus psychologists), and then be validated across OCBI-OCBO framework, cultures, and countries.

It is interesting to note that in the review of the OCBs of nurses in Feather et al. (2018), no studies on performance and quality of care are reported prior to 2007, and from 2007 to 2017 only nine out of 19 studies are conducted in collectivist cultures. Of these 19, five

are conducted in Taiwan, two in Turkey, one in India, and one in Israel. In addition, there are only six studies in the US: one in the UK, one in Sweden, one in Belgium, and one in Netherlands. No studies on OCB, performance, or quality of care outcomes of nurses were reported in Australia.

A review (Feather et al., 2018) on the OCB among nurses showed that nurses' trust towards their colleagues, managers, and institutions had a positive influence on conscientiousness, civic virtue, altruism, and courtesy (Altuntas et al., 2010). Whilst another study showed that customer-oriented perception had a greater influence on altruism than OCBO (Chang & Chang, 2010). Yet, in another study, trust and perceived support were evenly divided between leader–member exchange and OCB (Chen et al., 2008).

In a study by Chu et al. (2005) on nurses (n =314) in Taiwanese health care institutions, multiple regression analysis on the data demonstrated that job satisfaction, supervisor support, job involvement, and procedural justice had significant effects on OCB. In this study, a general OCB construct is composed of Organ's (1988) five dimensions—altruism, courtesy, sportsmanship, conscientiousness, and civic virtue—and hence did not indicate the relative influence of these antecedents on each of the dimensions; nor did it indicate their influence on targeted beneficiaries, such as colleagues, clients, or the organization. In addition, the study (Chu et al., 2005) is demographically biased as 77% of the subjects are single, female nurses with an average age of 25, and the study is conducted in a collectivist culture. Studies in the past have indicated younger nurses are more willing to engage in OCB, however, the findings are contradictory in the literature (e.g. Huang et al., 2015).

Though eminent scholars of OCB claim that the antecedents of OCB are studied extensively in comparison to the consequences (e.g. Spitzmuller et al., 2008; Podsakoff et al., 2009), there is at least one area of OCB correlates that appears to be understated. This is the area of EWB in which no studies have explored the broader nature of EWB on OCB. One reason could be that the role of EWB beyond job satisfaction in organizational research is new and evolving (Wright & Huang, 2017).

This study will thus examine the influence of a composite EWB of nurses and allied health professionals on OCB towards individual clients, teammates, and the organization. In this context, the next section discusses the three types of wellbeing (i.e. SWB, PWB, and WWB) that are incorporated to define EWB in this study. First, the concept of wellbeing is introduced, followed by a description of each type, and finally, a framework with the study variables is presented.

2.3 Wellbeing

Rath & Harter (2010), defined wellbeing broadly as 'all the things that are important to how we think about and experience our lives' (p. 137). It has been variously examined as positive affect, negative affect, life satisfaction, job satisfaction, subjective, psychological, workplace, occupational, and employment wellbeing (Wright & Huang, 2012). Seligman (2004) divided positive emotions into three dimensions, those that have been felt about the past, such as satisfaction; those that are felt in the present moment, such as joy and those that will be experienced in the future, such as resilience. These wellbeing constructs are either conceptualized as hedonic or eudemonic wellbeing, or a mixed bag of hedonic feeling and eudemonic functioning (Huta & Ryan, 2010; Delle Fave et al., 2011; Bhullar et al., 2013).

The academics who believe in pure, positive, and experiential wellbeing (based on the 'approach pleasure' and 'avoid pain' characteristics of human beings) draw their understanding of wellbeing from the philosophy of 'hedonia' or hedonism. From this perspective, wellbeing draws on human perception to decide what is important when people assess how they think and feel about their lives. In scholarly pursuits the concept of hedonic wellbeing has been operationalized to measure an overall effectiveness of positive human feelings and evaluation of life, and is usually measured by positive affect, negative affect, and life satisfaction (Diener et al., 1985; 2008; Su et al., 2014). Diener et al. (2017) specifically defined, the presence of high positive affect, low negative affect, and high life satisfaction as SWB.

Diener et al. (2017) stated that these broad appraisals of emotions and life in SWB 'reflect how people react to events and circumstances in their lives' (p. 87), and that the factors of SWB (life satisfaction, positive and negative affect) are discrete in factor analysis and indicate that the construct of SWB is multidimensional. Life satisfaction denotes how content one is (loosely termed 'happy') with one's self in general and represents a cognitive evaluation of SWB. Affect, on the other hand, represents the overall emotional or affective experience of how positive one may feel over negative feelings (Kanasky & Diener, 2017). Further, Wright & Huang (2012) specifically identified three primary characteristics of SWB. First, it involves cognitions; that is, individuals are 'happy' when they believe themselves to be so. Second, it involves emotions, and indicates that psychologically well individuals experience more positive emotions than negative emotions (Diener & Larsen 1993). Finally, SWB is a global evaluation of how one feels and thinks about one's life (overall, or, in aggregate) (Diener 1984). This holistic

evaluation of how one is going is also extended to specific domains of life such as job satisfaction.

The literature on SWB has also points to its characteristic malleability. Scholars have assessed that approximately 60% of SWB can change according to how one thinks, feels, and behaves in life. It goes beyond genetics, temperament, and personality (Nes & Roysamb, 2015 in Diener et al., 2017). Still other scholars (e.g. Brickman & Campbell, 1997) have argued that every individual has an offset or equalizer of SWB, such that, when one feels high or low in response to an affective event, the influence does not last long and normalizes to one's heritable offset. Scholars such as Lykken & Tellegen (1996, in Diener et al., 2017) even went as far as attributing SWB completely by one's genetic disposition. Diener et al. (2017) however, further asserted that 'heritability is not a fixed constant; rather, it is influenced by the amount of variability in the environment' (p. 89). Hence, the science of SWB has interested scholars of various fields, including organizational research and practice, leading them to explore factors relating to its nature, antecedents, and outcomes that can optimize human development.

Diener et al. (2017) emphasized that the facets of SWB, (life satisfaction, positive affect, and negative affect) are separable, and therefore must be assessed individually. The authors exemplify that life satisfaction can be assessed with self-report measures such as Satisfaction with Life Scale (SWLS) (Diener et al., 1985). The positive and negative emotions can be assessed with self-report measures such as the Positive and Negative Affect Schedule (PANAS) (Watson et al., 1988) or the Scale of Positive And Negative Experiences (SPANE) (Diener et al., 2010). However, Diener et al. (2017) cautioned that current studies may report on only one or two facets of SWB, and yet discuss SWB in general terms. These authors further recommend the use of larger samples, diverse

measures, and more robust statistical analysis (for example, bifactor models) in understanding the nature and the correlates of SWB. In this study, owing to the constrains of time and the expected smaller sample than Diener et al. (2017) implied, SWB is measured as a composite construct comprising all three facets, (life satisfaction, positive affect, and negative affect). These items are borrowed from the subset of standardized measures of Comprehensive Inventory of Thriving (Su et al., 2014).

However, scholars argue that life must encompass more than the pursuit of pleasure and satisfaction, which can be explained as a function of living life according to one's true self or virtues (e.g. Huta & Ryan, 2010). This kind of wellbeing has its philosophical roots grounded in 'eudaimonia', which, according to Ryan et al. (2008), is 'a way of living in which intrinsic values predominate in the sense that people are focused on what has inherent worth'. Accordingly, the rule for living a good life is not just to pursue extrinsic goals, like wealth and power, but to pursue the means to its end, which are is intrinsic, like health, relationships, and personal growth. This specific type of wellbeing that involves behaviours 'that satisfy basic psychological needs for competence, relatedness, and autonomy' (p. 139) is called psychological wellbeing (PWB) by Ryan et al. (2008). An example of eudemonic wellbeing or PWB is having meaning or purpose in life (Ryff, 1989).

A core construct born out of this eudemonic approach to wellbeing is Ryff's (1989) PWB, which refers to an individual's positive psychological functioning. It includes six core wellbeing dimensions: self-acceptance, purpose in life, environmental mastery, positive relations with others, autonomy, and personal growth. Taken together, these six dimensions encompass a breadth of wellness that includes positive evaluations of one's self and one's life (self-acceptance), a sense of continued growth and development as a

person (personal growth), the belief that life is purposeful and meaningful (purpose in life), the possession of good relationships with other people (positive relations), the capacity to manage one's life and the surrounding world effectively (environmental mastery), and a sense of self-determination (autonomy) (Ryff, 1989, p. 1071).

However, of the above PWB factors, the dimensions of self-acceptance, positive relations, and environmental mastery in Ryff's conceptualization of PWB seem to evaluate life from a common, subjective point of view. Indeed, the presence of supportive relationships, being in control, and having a positive self-regard ought to make one feel happy and satisfied in life. In this sense PWB is closer to SWB and therefore raises the question of whether SWB and PWB are related. Further, is there more commonality among Ryff's factors? If so, does this contradict the validity of the six-factor scale? The next part of the literature will test these queries commencing with arguments on the validity of Ryff's PWB.

The validity of the six-factor Ryff's scale of PWB (1989) has been questioned to some extent in the literature. Whilst some scholars indicated stability of the PWB scale, others, have empirically challenged the distinctiveness of the six individual factors (Springer & Hauser, 2006; Hsu et al., 2017). In its defence, Ryff & Keyes (1995) revisited the six-factor scale of PWB and admitted that the correlation between the two dimensions of environmental mastery and self-acceptance is high, indicating a that a five-factor model of psychological wellbeing might be appropriate. Another study (Springer & Hauser, 2006) examined the validity of Ryff's (1989) six-factor scale of PWB and found very high factor correlations between the dimensions of wellbeing, especially between personal growth, purpose in life, self-acceptance, and environmental mastery. They (Springer & Hauser, 2006) suggested therefore, that these four factors be fused into one

general PWB factor, such that Ryff's scale be defined as a three-factor scale, comprising of the general PWB factor, autonomy, and positive relations.

Moreover, the validation studies of Ryff's six-factor scale of PWB in the past have relied on either exploratory factor analysis (EFA) (Kafka & Kozma, 2002) or confirmatory factor analysis (CFA) (Ryff & Keyes, 1995; Springer & Hauser, 2006), and this is problematic as scholars indicate that sometimes it is inappropriate to conduct such factor analysis on constructs represented by multidimensional scales. This is because EFA assumes that the unique variances are independent, which is not the case for some of Ryff's scales. For example, the unique variances of the negatively worded items of Ryff's scales of PWB (SPWB) are dependent (Springer & Hauser, 2006). On the other hand, CFA does not assume independent, unique variances, but researchers often limit cross-loadings to zero, resulting, for instance, in inflated inter-factor correlations that undermine discriminant validity (Hsu et al., 2014).

Thus, to overcome the limitations of the criticized exploratory or confirmatory factor analysis, scholars now use structural equation modelling to reconsider the validity of Ryff's six-factor scale of PWB. For example, the study by Hsu et al. (2014), on the 1994–95 data drawn from the national survey of Midlife in the US showed that the validity issue is not so much about the distinct factors but is due to five problematic indicators: Environmental Mastery Item 2, EM2; Personal Growth Item No 3, PG3; Positive Relations Item 2 & 3, PR2, PR3; and Purpose in Life Item 2, PL2). Each showed considerable cross-loadings. For example, PG3 had a small loading on the target factor PG (0.209) but a large cross-loading on factor PL (0.695). Earlier, Clarke et al. (2001) had also suggested that all problematic indicators (i.e. EM2, PR2, and PL2) need to be modified or replaced.

Despite problems, Ryff's dimensions of PWB are however the most popular measures of eudemonic functioning or PWB that have been tested for its high alpha reliabilities (for example, Crouch et al. 2017, Morozinc et al. 2010); and construct validity (Hsu et al. 2014; Springer et al., 2006; Abbots et al. 2006). Whilst scholars use the various versions of the scale (Ryff, 2014), some studies utilise one or two dimensions of the full six-factor scale. Instances of such studies are Schaefer et al. (2013), which used only the PWB dimension of purpose in life to predict emotional recovery from negative stimuli, and Piero et al. (2017) on the happy-productive worker model, which has utilized Ryff's 'purpose in life' and 'personal growth' dimensions of PWB to assess eudaimonia. The selection of specific dimensions of PWB in studies is related to the overall objectives of the research that specifically relate to PWB variables of the sample under investigation.

In this study, the two dimensions selected from Ryff's PWB scale (1989) are: 'purpose in life' and 'autonomy'. In a recent study the alpha of seven items on a six-point Likert scale for 'autonomy', and for 'purpose in life' were reported 0.72 and 0.75 respectively (Crouch et al. 2017). These two sub-scales have specific significance for the nurses and allied health professionals sampled in this study. This is because, meaningfulness and autonomy has often been indicated as important factors of wellbeing of health professionals in the literature. An instance of such research is Dilig-Ruiz et al.'s (2018) review, which explored the influence of autonomy (among other factors) on job satisfaction of nurses. Further, Utriainen et al. (2015) identified twelve factors important to the wellbeing of nurses, and of them two are 'freedom to express diverse feelings in the community' and 'challenging and meaningful work'.

In the wellbeing literature, even though SWB encompasses one's experience and overall evaluation of satisfaction in life, PWB describes one's positive value-laden functioning

in life and in the specific domains of life. Researchers like Lyubomirsky et al. (2006) and Seligman (2005; 2011) suggested that apart from experiencing relatively higher satisfaction and positive emotions (than negative emotions), one must feel engaged and have meaning in life. Additionally, in relating SWB to hedonism and PWB to eudemonism Ryan et al. (2008) explain that the

> eudemonic conceptions focus on the content of one's life, and the processes involved in living well, whereas hedonic conceptions of wellbeing focus on a specific outcome, i.e. the attainment of positive affect and an absence of pain (p. 139).

Hence, Ryan et al.'s (2008) study implies that the presence of wellbeing functions will influence their level of satisfaction and positivity in life. Therefore, as Su et al. (2014) commented, SWB is like an internal 'barometer of how life is going' and is 'a key ingredient to PWB' (p. 254).

Following the observations of these authors (e.g. Lyubomirsky et al., 2006; Ryan et al., 2008; Su et al., 2014), the next section of literature will discuss the extent to which PWB and SWB are related but independent.

2.3.1 SWB and PWB—Related but independent variables of wellbeing?

Scholars have argued that SWB and PWB are not related. For instance, Kashdan et al. (2008) argued for a 'Big One' approach to wellness, in which they assert that wellness represents a subjective mental state and is equal to happiness or SWB. Thus, the presence of wealth, close relationships, personal growth, and community describes a eudemonic life but does not guarantee a positive mental state or wellbeing. Indeed, one might have a

happy disposition or just feel positive for the sake of it, with or without the presence of such eudemonic factors. Hence, Kashdan et al. (2008) argued that SWB and PWB are two ways of living life, but maintain that wellbeing is one state of mind, and therefore should only be defined by SWB.

Earlier, Keyes et al. (2002) and other scholars found that PWB is distinct from the construct of SWB, but also that the constructs overlap. Specifically, these authors indicated that the factors in Ryff's (1989) six-factor scale, namely self-acceptance, environmental mastery, and positive relations with others, are shown to create both feelings of hedonic pleasure (SWB) and eudemonia (PWB). The other three dimensions, namely autonomy, purpose in life, and self-growth, of Ryff's PWB measure are 'existential in nature, thus fitting more closely to the notions of personal fulfilment or eudemonia'. The implications of Keyes et al.'s (2002) study for future researchers is that instead of using the full measure of Ryff's PWB, one can focus on any one of these 'pure' eudemonic proxies of PWB, such as 'autonomy. However, as explained above in Section 2.3, the choice of dimensions would depend on the research objectives, and the research sample characteristics (e.g. Hernandez-Varas et al., 2019; Kurt et al., 2019).

In another study Diener et al. (2012) also demonstrated a relationship between the subjective and the PWB. More specifically, the authors looked at the relative influence of purpose, mood, and pleasure in influencing one's satisfaction in a day, self, and life. In this study, through correlations, regression, and factor analysis on the data from an American college sample (n = 222), it is revealed that 'life-satisfaction' and 'self-satisfaction' (self-esteem) are best influenced by the presence of positive affect, the absence of negative affect, and purpose in life. Further, Diener et al. (2012) reported that life satisfaction is less influenced by one's positive mood than is 'daily-satisfaction'. This

indicates that even everyday satisfaction is more enduring that mood. That, the eudemonic factor (purpose in life) highly influenced the global life satisfaction after being controlled for affect and appeared to compensate low levels of mood. In this study, mood and pleasure denote the SWB (hedonic) variables, whilst 'purpose' indicated psychological (eudemonic) wellbeing. The findings in this study imply that in future research PWB (such as purpose in life) should be examined together with hedonic SWB factors (for instance, positive affect), and that the more enduring life satisfaction should be examined over time, instead of the everyday mood fluctuations that may be too difficult to monitor. Certainly, such integrative initiatives to wellbeing research could apply to the general population or to domain-specific research (for instance, WWB) across different contexts, occupations, demographics, countries, and cultures.

Earlier studies have also indicated that both hedonic and eudemonic wellbeing must also be examined across the various domains of life, including work. For example, in a mixed-method study across six countries, Delle Fave et al. (2011) explored the influence of the 'hedonic' variable of happiness and the 'eudemonic' variable of meaning on the hedonic outcome of life satisfaction in general and in the different domains of life. In an exploratory analysis on the data from 666 respondents (controlled for age, employment, and education), regression analysis revealed that happiness and meaningfulness explained 38% of variance in life satisfaction. However, the study by Delle Fave et al. showed that at any one point in time, the level of happiness and meaning could vary across the different domains of life. For example, 'work' is ranked second under meaningfulness, but sixth under happiness-related domains, indicating that 'meaningfulness and experiencing happiness are not the same thing: they do not refer to the same domains, and their perceived levels differ quantitatively in general and across domains' (p. 202). The

study therefore supports the involvement of both hedonic and eudemonic variables in general and in domain-specific wellbeing research, such as the domain of work.

In the cross-country study (Delle Fave et al., 2011), the mean levels of happiness, meaningfulness, and satisfaction on the seven-point Likert scale reported are all higher than 5. This finding is not a surprise, given that, Diener et al. (2015) indicated that people generally feel 'happy', and that even in most difficult times bounce back to an SWB measure above the neutral point (Diener & Diener, 1996). A point to note is that the Australian counterpart of the cross-country samples in Delle Fave et al.'s (2011) study reported a higher SWB than PWB means. However, this point is noted with caution as in Delle Fave et al.'s study no standardized measures are used, the convenience sample is small, and the participants' were an educated age-group of 30–51-year olds. Following this study (Delle Fave et al., 2011), future research can test the relative presence of these wellbeing types by occupational groups, such as the health sector in Australia.

Studies, as presented above (e.g. Keyes et al., 2002; Delle Fave et al., 2011; Diener et al., 2012), so far indicate that both SWB and PWB are related but independent constructs, and any wellbeing research must incorporate both these hedonic and eudemonic approaches. Irrespective of how wellbeing is conceptualized, however, it appears that self-assessment of how one is going (that is, SWB) and/or how one is doing (that is, PWB) is fundamental to understanding an individual's wellbeing. This is because self-evaluation is the true reflection of how people perceive their lives, including the eudemonic variables of their lives, such as meaning, autonomy, and personal growth. Whilst behaviours can be assessed by others, such as peers, supervisors, family members, or a trained observer, perceptions are very individualistic and therefore can be best captured through self-reflection. Hence, despite the obvious presence of responder's and

the common method biases, the researcher must rely on subjects' own accounts of their wellbeing, especially as wellbeing measures are typically measuring subjective experiences and evaluations of life. The present study, therefore, justifies the use of a self-reported survey to assess the conceptualized EWB.

However, the above account of the nature and relatedness of SWB and PWB raises further queries such as: Which of these wellbeing measures (if any) are more important in research and practice? Which are even more enduring and reliable? Is functioning well in life more important than feeling well in life? Can one function well if one feels negative in life? Or at work?

2.3.1.1 Is SWB or PWB a better measure of wellbeing?

Whilst literature supports the study of both subjective and psychological wellbeing, the latter appears to be more enduring and stable than SWB. For example, Bassi et al. (2012) empirically investigated the influence of situational uncertainty as an antecedent of employee eudemonic and hedonic wellbeing and, highlight the strengths of eudemonic wellbeing over hedonic wellbeing. On the data collected from 85 Italian employees across two insurance companies, one thriving, the other failing, the authors through hierarchical regression found four important results. These are as follows: (1) Lack of association between job meaning, (eudemonic construct) and uncertain times. (2) Job happiness (hedonic construct) is negatively related to uncertain job contexts such as fear of losing a job. (3) There are positive links between uncertain times and having positive relations in life, which may compensate for the negative emotions experienced in uncertain times. (4) Job meaning led to a spill-over effect of job happiness on global life satisfaction.

The study by Bassi and colleagues (2012) points to the enduring nature and efficacy of the eudemonic PWB factors, such as meaning or purpose and positive relations in the workplace, especially in uncertain times compared with the fluctuating SWB measured by job happiness. The study also indicates that SWB and PWB are related and influence one another. For instance, presence of meaning influences one's life satisfaction. More importantly, the study by Bassi et al. (2012) implies that when individuals report positive psychological wellbeing in life, such as positive relations, meaning, or autonomy, they are likely to overcome the unexpected challenges in life that deplete SWB.

Moreover, a recent study (Joshanloo et al., 2019) that analysed 2731 individuals from the Midlife in the United States data (Ryff, 1989) over two decades, reveals that even though hedonic SWB and eudemonic PWB are related and each is stable over time, PWB influences SWB consistently, but SWB does not predict PWB consistently over time. In other words, SWB is less stable than PWB; and PWB is more stable and enduring than SWB over time. This outcome in Joshanloo et al.'s study, however, does not imply that research on wellbeing must favour PWB over SWB. This is because SWB and PWB can be envisaged as two sides of the same coin.

Whilst some studies perceive PWB as the process and SWB as the outcome (e.g. Ryan et al., 2008; Huta & Ryan, 2010), others such as Su et al. (2014) have shown SWB as an important ingredient of PWB. On the other hand, Bhullar et al. (2013) in their study on wellbeing, reported both SWB and PWB as outcomes of engaging in meaningful hedonic and eudemonic activities that mark an individual's positive way of living. In Bhullar et al. the wellbeing outcome measures evaluated life satisfaction, positive affect, subjective physical health, PWB, social wellbeing, and absence of stress, anxiety, and depression. This view of Bhullar et al. (2013) is, however, different from Huta & Ryan (2010), who

saw PWB as the process and SWB as outcome of that process. However, whether feeling good makes one function well in life, or is conversely true, both must be integrated for a robust wellbeing research. Unquestionably, however, the direction of the research must rely on the objectives of the study. The next section makes a compelling case for this integrated approach.

2.3.1.2 An integrated approach of wellbeing

In a UK-based National study, Hicks et al. (2013, p. 76) indicated that three broad approaches to wellbeing are identified in literature: 'evaluative', 'experience', and 'eudemonic'. The authors (Hicks et al., 2013) explain these three approaches as follows. First, the evaluative approach requires individuals to reflect cognitively on their life (Diener 1994). Respondents can be asked to provide an assessment of their overall life satisfaction. The evaluation of satisfaction, however, can also be contextual, such as at work. This evaluation approach to measuring wellbeing in terms of 'satisfaction' has been the most prevalent both in national and international surveys.

Second, the experience (or affect) approach aims at providing an assessment of the emotional quality of an individual's experience in terms of the frequency, intensity, and type of emotion at any given moment. The emotion assessment may be represented generally as positive or negative affect, or it may be specific, for example happiness, sadness, anxiety, or excitement. Hicks et al. (2013) noted that the type of affect-experience that measures SWB can be collected through diary-based methods such as through the Day Reconstruction Method (DRM). Another method could be the Experience Sampling Method (ESM), where respondents report feelings at different times of the day while carrying out different activities. However, it is also possible for this

information to be collected by more general social-survey questions, such as questions about their feelings over a short reference period.

Third, Hicks et al. (2013) state that the eudemonic approach to wellbeing is based on the theory that people have underlying psychological needs such as meaning, autonomy, sense of control over their lives, and the need to relate with other people (Ryff, 1989). This approach to eudemonic wellbeing, described above in Section 2.3, is the 'functioning' or 'psychological' approach, and is operationalized as 'psychological wellbeing' (PWB). In their study, Hicks et al. (2013) highlighted the significance of studying both SWB (that is, the evaluative satisfaction and the experiential feelings) and psychological (eudemonic) wellbeing.

At this point in the topic of wellbeing, the literature discussed above indicates that both the hedonic approach operationalized by SWB and eudemonic approach operationalized by PWB must be integrated in studies of wellbeing. However, wellbeing applies to all the facets of one's life, for example, physical, emotional, relationships, social, recreational spiritual, and work. Studies such as Delle Fave et al. (2011) indicate that at any one point and time the levels of happiness (measured of hedonic SWB) and meaningfulness (measured as eudemonic PWB) could covary. They can also covary within themselves over time. This also applies to WWB. Moreover, Su et al. (2014) showed that SWB is a key indicator of PWB. The logic of integration of both SWB and PWB, therefore, applies to both life in general and to evaluating domain-specific wellbeing like WWB. Still, the literature acknowledges that WWB of employees is a relatively young area in demand of more scholarly pursuits (Kanasky & Diener, 2017). Further, it should be noted that the literature in organizational science uses the terms WWB and EWB synonymously, and the researcher of this study cautions future scholars against it. This is because the concept

of EWB must incorporate both SWB and PWB in life, and, at work, whereas, WWB must only incorporate SWB and PWB at work. In this context, the following Section 2.3.2 first tracks the development of the newer domain-specific construct (WWB), then provides a conceptualized framework for the broader-term EWB.

2.3.2 WWB–Hedonic SWB at work and/or eudemonic PWB at work?

As explained in the above section, the topic of wellbeing has been analysed from two different viewpoints (Ryan & Deci, 2001; Biswas-Diener et al., 2009, Huta & Waterman, 2014, Joshanloo, 2019) namely SWB (hedonic) and PWB (eudemonic), and research must incorporate both approaches. Hence, both SWB and PWB must be incorporated in WWB. Moreover, Diener (2014), indicates that SWB can change considerably over time and with context. The global experience of wellbeing—for example, feeling and/or functioning positivity in life—may not mean that an individual will feel or function well within or between specific life domains at any one time or across time (Delle Fave et al., 2011). This means one may report overall positive wellbeing in life, but psychologically, function poorly at work, or in marriage. It is therefore necessary to explore both SWB and PWB in life and respective domains of life separately.

However, given that a worker spends a significant amount of his/her lifetime at work, the literature is still scant on what specific factors might define a worker's wellbeing at work. This is surprising, given the upsurge in the number of wellbeing studies on the general population (Czerw, 2019). The following section of the literature review now attempts to describe and update some of these sporadic studies that have been undertaken to define, develop, and measure WWB. The aim in this section is to explore specifically the extent

to which both hedonic and eudemonic factors (if any) are conceptualized and tested in WWB.

Research on worker wellbeing has hitherto been restricted to exploring SWB based on the hedonic approach (Parker & Hyett, 2011; Czerw, 2019). Consequently, SWB at work has previously been limited to exploring either job satisfaction (which is satisfaction specifically felt at work), positive and negative emotions at work, or a combination of these experiential factors at work. Erdogan et al. (2012) in their meta-analysis on emotions experienced by employees at different levels of an organization, showed that life satisfaction and job satisfaction are correlated; on the other hand, Staw et al. (1994) tested global SWB facets like mood or positive emotions of employees at work. In fact, the literature indicates that positive and negative affectivity of employees are common contemporary SWB factors tested at work (e.g. Jain et al., 2012). Moreover, for a long time in the literature WWB has predominantly been assessed by the subjective measure of job satisfaction (Fisher, 2010).

It is Fisher (2010) who, in a literature review on the nature, antecedents, and consequences of workplace happiness, argues that job-satisfaction alone does not capture individual-level happiness at work comprehensively; rather, she maintains, workplace happiness must incorporate positive job attitudes such as 'job engagement' and 'affective organizational commitment' (AOC). In this review by Fisher, workplace happiness was defined by the workplace job attitudes as follows: Job satisfaction is described by a 'pleasurable or positive emotional state resulting from an appraisal of one's job or job experiences' (Locke 1976, p. 1300 in Fisher, 2010). Therefore, whilst job satisfaction should typically contain both cognitive and affective variables (Eagly and Chaiken 1993), most research only assesses its cognitive variable (Brief 1998; Brief and Weiss, 2002;

Organ and Near, 1985; Weiss, 2002, in Fisher, 2010). In Fisher's review job satisfaction incorporated 'cognitive judgments about the job, including facets such as pay, co-workers, supervisor and work environment' (p. 391). Job engagement (Bakker and Demerouti, 2008, p. 209) is referred to in the literature as 'a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption'. In other words, job engagement involves high levels of energy, mental resilience, being happily engrossed, feeling strongly involved in one's work, and experiencing a sense of significance, enthusiasm, and challenge. Finally, AOC (Meyer et al., 1993) is linked to employee attachment to the organization, in which an employee identifies with and accepts the organization's goals and is thus willing to exert effort in those directions and has a strong wish to remain part of the organization. Hence, Fisher in her study (2010) only explored these subjective wellbeing aspects of worker wellbeing.

Later, Salas-Vella et al. (2017) incorporated Fisher's (2010) construct of 'happiness at workplace' (HAW) as an independent variable that affected citizenship behaviours at work. However, these authors (Fisher, 2010; Salas-Vella et al., 2017) fail to recognize that workplace happiness or wellbeing also needs to incorporate the eudemonic wellbeing factors. Whilst literature indicates to the need to incorporate both SWB and PWB in life, and at work (Delle Fave et al., 2011; Joshanloo, 2019), specific eudemonic WWB, which is PWB at work measures are very limited.

It is only in recent times, however, there have been some exceptions, in which WWB is assessed by its eudemonic variables. For example, one Canadian investigation by Dagenais-Desmarais & Savoie (2012) particularly explored five eudemonic wellbeing factors specific to work: interpersonal fit at work; thriving at work; feeling competent at work; being recognized at work; and desire for involvement at work. Hence, according to

Dagenais-Desmarais & Savoie (2012), WWB is determined by factors like how well individuals can psychologically fit in to their work using their particular abilities and skills to fulfil the job demands. In another study, Utriainen et al. (2015), in a theoretical model on the wellbeing of nurses in hospitals, found three clusters of eudemonic factors that affected their wellbeing. These are: (1) meaningfulness and success in patient-centred care;(2) collegial support; and (3) good leadership and professional development. Compared with past research on WWB (which only examined the hedonic wellbeing or SWB factors), Utriainen et al.'s study is unique as it emphasizes eudemonic wellbeing factors that influences the wellbeing of employees at work.

In a more recent investigation, Czerw (2019) incorporated both hedonic SWB and PWB factors in studying WWB. Czerw demonstrated that WWB can be defined by four factors: positive organization; fit and development; positive relations with co-workers; and contribution to the organization. In developing her workplace eudemonic questionnaire, Czerw defined four corresponding scales. Briefly, these are: (1) 'Positive Organization', based on the feeling of the worker that the employee and the employer are able to work for the common good; positive perceptions of the organization as reliable and trustworthy; sense of agreement on the organizational values. (2) 'Fit and Development', measures a worker's satisfaction with their performance and positive feelings about developing their competencies. (3) 'Positive Relations with Co-workers', measured by quality, sincerity, trustworthiness, reliability, and openness of relationships with others at work. (4) 'Contribution to the Organization', assessed by the worker's self-worth and self-efficacy in delivering and adding value to the organization. However, the Polish study (Czerw, 2019), which explores the WWB factors on a sample of 724 working adults, is biased, as

the demographics over-represented women, higher education, and white-collar employees. In addition, it is based on one country.

Earlier, an Australian WWB measure that incorporated both subjective (hedonic) and PWB factors (eudemonic) at work, was developed by Parker & Hyett (2011, 2015). The WWB measure (2011) revealed four valid factors that explained worker wellbeing, namely work satisfaction, organizational respect for the employee, employer care, and intrusion of work into private life. The first factor, 'Work Satisfaction' captured the respondents' judgments of whether their work was fulfilling and whether it increased their sense of self-worth, provided life with some purpose and meaning, and advanced their skills. This factor accounted for 18.8% of the variance of WWB. An example of an item that measures the hedonic variable 'Work Satisfaction' is 'Does your work bring a sense of satisfaction?', and an item that captures the eudemonic variable of wellbeing is 'Does your daily work activities give you a sense of direction and meaning?'.

The second factor in Parker & Hyett's (2011) WWB measure, 'Organizational Respect for the Employee' (13.5% of the variance of WWB), is characterized by items such as whether employees trust their management, believe in the organization's operating principles, and feel respected. The third factor, 'Employer Care' (10.9% of the variance of WWB), encapsulated leadership support. Items measuring employee perceptions of their supervisor, such as whether he/she is willing listen and understand the employee's work concerns. The fourth factor, 'Intrusion of Work into Private Life' (9.3% of the variance of WWB), is a negative factor, capturing whether the individual felt stressed and found it hard to relax.

Some comments need to be made about Parker & Hyett's (2011) WWB measures. In the literature, Fisher (2010) recommended the need for future studies that will capture both individual-level and organization-level factors in assessing WWB but developed a 'happiness at work' (HAW) construct on only the individual-level factors of wellbeing at work. Parker & Hyett's (2009) WWB measure, on the other hand, captures both individual and organizational level factors. For instance, 'Work Satisfaction' measures the individual-level factors of cognitive and affective evaluation of work, whereas 'Employer Care', which is essentially leader support, captures the organizational-level factor of WWB.

Moreover, specific factors in Parker and Hyett's (2009) WWB measure incorporate both the hedonic and eudemonic approaches to wellbeing at work. Whilst the factor 'Work Satisfaction' in Parker and Hyett (2011) involves both hedonic 'satisfaction' and eudemonic 'meaning' at work, the factors of 'Employer Care' and 'Employee Respect for the Organization' are relational (trust- and support-based) between employee–employer/leader and employee–organization; these, therefore, satisfy relational needs (Ryff, 1989; Deci & Ryan, 2000; Ryan & Deci, 2008) and measure the eudemonic variables of wellbeing at work.

The fourth factor in this WWB measure (Parker & Hyett, 2011), 'Intrusion of Work into Private Life', captures the distress when work interferes in an employee's private life. Keyes et al. (2002) defines mental health on two continua, mental wellbeing, and mental illness. In other words, Keyes et al.'s study suggests that wellness can be assessed by both wellbeing and ill-being, and that the presence of mental wellbeing does not indicate the absence of mental illness as these are measures on separate continua. In this regard Parker

& Hyett's (2011) measure of WWB is all-inclusive, involving wellbeing and ill-being factors (as explained above).

Parker & Hyett's (2011, 2015) WWB measure is an Australian measure. Hence, future studies in validation and standardization of the scales should reflect Australian norms of WWB. Further, future studies on WWB, either as an outcome or an antecedent, or validation studies of the scale in Australia could benefit from using this scale. The other advantage of the WWB scale (2011) is that it is short (consisting of only 31 items) and multi-dimensional, and can be studied across job levels, demographics, and ethnicity, and translated across cultures and countries. It can also be used in future in both cross-sectional studies and phased longitudinal studies.

2.3.3 Employee wellbeing (EWB)—A proposed framework (SWB in life, PWB in life, and WWB (hedonic and eudemonic wellbeing at work)

The literature on wellbeing has established two distinct wellbeing constructs, SWB and PWB, and more recently developing a work-specific wellbeing construct, WWB, in which the SWB and PWB factors are made up of work-related wellbeing variables. To evaluate an employee's wellbeing, it makes sense to explore both how the employee feels and functions at work, and in life overall. This idea is proposed to some extent by Dana & Griffin (1998), who suggested that EWB must include context-free measures of life experiences (such as life satisfaction, happiness), within-organization measures (such as job satisfaction, job attachment), as well as facet-specific dimensions (for example, satisfaction with co-workers).

The Australian scholars Page and Vella-Brodrick (2009) identified that EWB is more than WWB and must incorporate how a person feels and functions in life in general. They

conceptualized and tested a contemporary model for ‘employee wellbeing’ based on this idea. The authors reason for exploring these three aspects of EWB were to offer a more comprehensive and integrated approach to measuring and understanding wellbeing of employees in organization that linked to beneficial organizational outcomes, such as performance. In their paper, Page and Vella-Brodrick (2009) propose that EWB consisted of three distinct variables, i.e. SWB, PWB, and WWB. In their model of EWB (Page and Vella-Brodrick, 2009), SWB is measured by the worker’s life satisfaction and dispositional affect; PWB is measured by Ryff’s scale (1989) that incorporated self-acceptance, positive relations with others, environmental mastery, autonomy, purpose in life, and personal growth; and WWB is measured by job satisfaction and work-related affect or affective wellbeing at work.

To explain why EWB must incorporate both SWB and PWB, Page & Vella-Brodrick (2009) drew specifically on Keyes et al.’s work on the ‘Complete state model of mental health’ (2002). In the study in 2002, Keyes et al.’s diagnosis of the presence of mental health is based on the two main criteria of ‘feelings’ and ‘function’ which are measured on the two continua, mental wellness, and mental illness, respectively. For Keyes et al. mental health is the presence of wellness, not just the absence of illness. Wellness, according to Keyes et al. (2002) must be accompanied by positive feelings, positive attitudes, and positive functioning. In wellness, those who fulfil the two criteria of positive feeling and functioning ‘flourished’; those who do not, or do so minimally, ‘languish’. For the ‘feeling’ variable Keyes et al. (2002) incorporated positive affect and life satisfaction measures from Diener (1984); for the ‘function’ variable, Keyes et al. (2002) looked at measures from Ryff’s (1989) PWB scale; and for social wellbeing, the

author had previously developed a specific measure of SWB (Keyes, 1998 in Page & Vella-Brodrick, 2009).

In line with Keyes et al. (2002), Page and Vella-Brodrick in 2009 reasoned that EWB must incorporate employees' healthy positive feelings (SWB) and function (PWB) in life and added the variable of WWB to examine how employees feel at work. Page and Vella-Brodrick's (2009) WWB measured both job satisfaction and affective emotional wellbeing. This is based on their literature review, in which they found that the correlation between life satisfaction and job satisfaction in a meta-analysis of 23 studies is only modest (0.30) (Rice et. al., 1980 in Page & Vella-Brodrick, 2009). Life satisfaction is a cognitive evaluation of how one feels in life; job satisfaction relates similarly to work. The former assesses SWB in life, the latter, SWB at work. Page and Vella-Brodrick (2009), however, criticize the study by Rice et al. (1980), stating that the correlation between life and job satisfaction (0.30) may have improved if emotions had been simultaneously considered in job satisfaction. This led Page and Vella-Brodrick to involve both the cognitive evaluation of job satisfaction and the emotional evaluation of 'affective emotional wellbeing' in the WWB construct of their EWB framework.

In a later study, Page and Vella-Brodrick (2013) trialled a six-week employee wellbeing intervention on 50 government officials (though only 23 completed the study). They found that the intervened group demonstrated improved SWB and PWB, though the main effect is on AWB (affective emotional wellbeing), and there is no influence on the overall WWB. More specifically, even though affect varied (pre–post intervention), job satisfaction and the overall WWB did not change. However, it would be premature to comment on the efficacy of the study (Page and Vella-Brodrick, 2013) owing to its high drop-outs rate and very small sample size. Nevertheless, improvements in SWB, and

PWB and group gains on AWB before and after the wellbeing intervention indicate that SWB, PWB, and AWB are important elements that influence overall employee wellbeing. Page & Vella-Brodrick's (2009) model of EWB, though it incorporated the employee's general and overall experience of SWB and PWB, their model of WWB only assessed hedonic SWB experienced at work (job satisfaction and affective wellbeing at work). The conceptual model of EWB (2009) did not incorporate any eudemonic factors related to work.

On the other hand, contemporary literature indicates that employee wellbeing models are consolidating both hedonic subjective and eudemonic PWB factors and exploring these factors in specific work contexts. For example, Van Horn et al. (2004) explore teachers' wellbeing by testing five factors that include both the hedonic subjective and eudemonic PWB perspectives. These five multidimensional factors (Van Horn et al., 2004) for exploring attitudes towards work and the organization are affective wellbeing (affect, commitment, lack of emotional exhaustion), professional wellbeing (aspiration, competence, and autonomy), social wellbeing (lack of students' and colleagues' depersonalization, quality of students' and colleagues' social behaviour), cognitive wellbeing (lack of cognitive weariness), and psychosomatic wellbeing (lack of psychosomatic complaints). In this study, the affective-wellbeing construct assessed the hedonic SWB, whilst the other constructs assessed the eudemonic factors of wellbeing in teachers. Such integrated occupation-specific wellbeing measures, to the knowledge of the researcher, are not found in the literature for health professionals, and this indicates a research gap.

Until such specific WWB measures for health professionals are developed, future EWB research can incorporate, and adapt one of the newer WWB measure (Parker & Hyett,

2009; or Utrianen et al., 2015) that evaluate both the hedonic SWB and eudemonic PWB factors specific to work. Though Page and Vella-Brodrick (2013) later used their conceptual EWB framework (2009) in an experimental design, their EWB framework missed incorporating the eudemonic variable of WWB. EWB research in future must, therefore, include the hedonic and eudemonic variables of wellbeing in life and at work, and, be applied to larger samples in cross-sectional and/or longitudinal designs. One idea for future research on EWB may follow Chen et al.'s (2013) study that conducted a bifactor analysis on SWB and PWB to establish a meaningful difference between the two constructs. In future research the common and the unique variances of SWB, PWB, and WWB in EWB can thus be examined. Another idea for future research would be to expand on Page and Vella-Brodrick's (2009) framework of EWB by considering the work-related eudemonic wellbeing factors in their WWB variable. The moderated conceptual framework of EWB should then be validated in similar studies. A benefit of broadening and examining the EWB framework is that future literature will be able to distinguish the terms, SWB, PWB WWB and EWB, all of which are confoundingly used in the literature.

In this study, the proposed model of EWB, is an extension of Page and Vella-Brodrick's (2009) conceptual EWB framework and is empirically tested with different measures. More specifically, in this study items from subscales (measuring life satisfaction, positive and negative emotion)—in Su et al. (2014) 'comprehensive inventory for thriving'—are used for SWB. For PWB the two dimensions from Ryff's 6-factor PWB scale (Ryff, 1989) measure purpose in life and 'autonomy' respectively. The items for PWB are chosen from Ryff's original scale and from two subsequent validation studies on Ryff's 7-item scale by Springer & Hauser (2006) and Abbots et al. (2006). These dimensions of

wellbeing are chosen for this study as each of these eudemonic variables are important antecedents in the wellbeing of health professionals such as nurses (Dilig-Ruiz et al., 2018; Utriainen et al., 2018). Finally, for WWB this study uses the four-dimensional workplace measure developed and standardized by Parker & Hyett (2011), which integrates both the hedonic and eudemonic variables and includes a distress factor in the measure.

These EWB variables will be examined as predictors of citizenship performance of nurses and allied health professionals in this study. First, however, for a fuller understanding of EWB variables, literature on its antecedents and consequences are described below.

2.3.4 Predictors of wellbeing

Various domains of life, such as physical health, mental health, social relationships, education, and work, influence wellbeing (Kansky & Diener, 2017). For example, at work positive work climate, positive leadership, and HR management policies influenced employee wellbeing, such as lower depression and lower job dissatisfaction, or enhanced job satisfaction (Diener et al., 2017). Whilst circumstances in life and the cultural factors cannot be modified, SWB factors such as job satisfaction can be enhanced. This is possible because 60% of SWB (that is, how one feels, thinks, and behaves) is intentional rather than genetic, and even the 40% attributable to genetic factors can be modified with environmental factors (Nes & Roysamb, 2015 in Diener et al., 2017). For example, staff turnover in the workplace can reduce life satisfaction and job dissatisfaction (Erdogan et al., 2011), just as unemployment can reduce both life satisfaction in general, and affective wellbeing at work (Luhmann et al., 2012 in Diener et al., 2017).

Moulin et al., (2017), in a four-year longitudinal population-based study in Montreal, Canada, grouped potential correlates of wellbeing into eight categories: socio-demographics; mental health status; perception of mental and physical health; social interaction, social support, and neighbourhood; stress; coping; spirituality; and geographical environmental contexts. Some of the identified predictors of wellbeing at 'Time 2' (after two years) are perceived wellbeing status, education, psychological distress, social support, neighbourhood, and ability to handle daily hassles.

In the study (Moulin et al., 2017), the authors borrowed Keyes et al.'s (2002) model of mental health, in which adults considered to be completely mentally healthy (flourishing) functioned better than adults with moderate mental health, and adults with moderate mental health fared better than those with poor mental health (languishing). The authors viewed mental health as equivalent to wellbeing (irrespective of the presence or absence of mental illness). Moulin et al.'s study suggests that individuals who perceive themselves as flourishing at 'Time 1' (after one year) are five times more likely to flourish at 'Time 2' (after two years). High education but poorer socioeconomic status in that study related to high expectations from career and quality of life, and, therefore, influenced lower wellbeing. The probability of excellent wellbeing was 33% lower in individuals with high psychological distress. The study (Moulin et al., 2017) did not, however, include other known predictors of wellbeing, for instance personality trait (Diener, 2000); further, the length of time from 'Time 1' to 'Time 2' is only two years and therefore may not be long enough to examine adequately the changes in all the correlates.

Some of the literature indicated a lower level of SWB in women than in men (Rampichini & Schifini d'Andrea, 1997 in Blasi et al. 2013). This may be explained by the varied multiple roles that a woman typically assumes in life (wife/partner, worker, mother),

which in turn curb one's sense of autonomy or freedom and leads to low SWB. Other studies, however (for example, Haller and Halder, 2006), indicate a greater level of SWB in women and highlight women's ability to overcome any negativity arising from overlapping social roles. Yet other research (for example Hooghe & Vanhoutte, 2011) reports no significant influence of gender on wellbeing. Further, in one European study (Huppert & So, 2009) of 43,000 adults above the age of 18 years and across 23 countries finds that high levels of both SWB and PWB are associated with higher income, higher education, and being married. For example, in Blasi et al. (2013) graduates seemed to report a higher level of wellbeing, whilst Hooghe & Vanhoutte's (2011) study did not find a significant influence of education. Cultural factors can also affect wellbeing. For example, self-esteem is a stronger predictor of life satisfaction in individualistic societies than in collectivist societies (Diener & Diener, 1995), although objective social status (for instance, education level) influenced more life satisfaction among Japanese than Americans.

In opposition to the traditional approach of investigating external antecedents of wellbeing—such as life circumstances (for example, unemployment), work circumstances (for example, pay, turnover, lack of leader support), or culture (collectivist versus individualistic)—SWB (life satisfaction, positive affect, negative affect) can also be influenced by how individuals perceive their external circumstances or environment. A study by Bretones & Gonzalez (2011) in a multinational company of collectivist Mexico showed that employees' internal perceptions (social values) of external circumstances interacted with external factors like level of education and nature of job to determine their turnover intentions.

In the study, Bretones & Gonzalez (2011) showed that whilst occupational wellbeing is determined by the nature of one's work (for example, job level), SWB is influenced by one's social values and level of education. In a similar vein, Diener & Suh (1999) also reported individualistic cultures like the United States and Australia, experience extreme values of SWB, positive or negative, compared with collectivist societies that have a more secure and supportive social structure. However, future studies may yield a different set of circumstances for individuals; the contemporary twenty-first-century trends of expanding globalization and robotic automation will call for research on a new set of predictors of wellbeing.

Nevertheless, majority of studies in the literature on predictors of wellbeing examine SWB. Only very recently has research moved to examine the antecedents of PWB and WWB. For example, Son & Wilson (2012) used two waves (spaced ten years apart) of panel data from the National Survey of Midlife in the United States (MIDUS) and demonstrated that volunteering increases eudemonic PWB and social wellbeing, but not hedonic SWB wellbeing. Their structural equation modelling also indicated a reverse relationship finding that those with higher levels of SWB, PWB, and social wellbeing are more likely to volunteer, and to engage more hours in volunteering. On similar grains of thought, this study by Son & Wilson, (2012) could be extended to explore the influence of these distinct wellbeing antecedents on OCBs.

A Spanish study by Hernandez-Varas et al. (2019) investigated the influence of psychological capital, work satisfaction, and health self-perception on Ryff's PWB (1989). In this study, psychological capital (PsyCap) —a composite of four positive-state-like attitudes, namely hope, resilience, optimism, and efficacy—is an enhancer of positive organizational behaviour (e.g. Luthans et al., 2010; Avey et al., 2009), represents SWB

(Seligman, 2010). The study by Hernandez-Varas et al. (2019) uses correlations and stepwise linear regression to show that PsyCap is the strongest predictor of PWB; and the three predictors together, (that is, PsyCap, work satisfaction, and perception of health) explained 53% of variance in PWB. Thus, in Hernandez-Varas et al., PsyCap (a form of SWB) is a more important factor than work satisfaction (a form of WWB) and health self-perception (another form of SWB) as the key predictor of PWB. However, these findings in Hernandez-Varas et al. (2019) may have been influenced by the sample of military personnel. In the military the presence of positive emotions as in PsyCap underscores job commitment, job involvement, and performance. Future studies could, therefore, explore the influence of PsyCap on the both hedonic and eudemonic wellbeing of health professionals.

Further, the study by Hernandez-Varas et al. (2019) is nearly unique as prior studies have neglected examining WWB (commonly represented by work satisfaction) and SWB (commonly represented by evaluation of health and positive life attitudes in PsyCap) as potential predictors of PWB. A similar study in Turkey (Kurt et al., 2019) on teachers (*n* = 384) used the same variables but in a slightly different research design, in which structural equation modelling showed that PsyCap influenced both job satisfaction and PWB of the teachers. Hence, to the knowledge of the researcher of this study, studies examining SWB, PWB, and WWB together (as either mutual predictors, outcomes, or moderators) are rare in the literature, though some have recently started to appear (Hernandez-Varas et al., 2019; Kurt et al., 2019). They are much needed across occupations, and there is a further need in future research for WWB to be defined beyond job satisfaction or work satisfaction.

This doctorate study examines these three wellbeing variables under a similar framework of EWB and considers their relative predictive value on the citizenship behaviours of health care professionals by using partial least squares structural equation modelling (Hair et al., 2017). As the sample studied in this thesis comprises nurses and allied health professionals, Section 2.3.4.1 specifically focuses on some of the main predictors of wellbeing in health care.

2.3.4.1 Predictors of wellbeing in health care

For the health professions, various wellbeing predictors are studied that represent the unique working conditions encountered, such as heavy workload, work stress, daily handling of patient pain, and having to cater for the needs of patients whilst working collaboratively with co-workers. For example, Karimi et al. (2014) investigated the role of emotional labour and emotional intelligence on the wellbeing and job stress in Australian nurses. In this study, emotional labour is described as the dissonance between the felt and expressed emotion of the staff at work, and emotional intelligence is described as that dimension of emotion at work that refers to 'the ability to identify, assess, manage and control self and reactions to others' emotions (Meyer et al., 2008)' (Karimi et al., 2014, p. 178).

In the cross-sectional study (Karimi et al., 2014), 312 nurses responded to a paper-and-pencil survey' The results revealed that emotional labour and emotional intelligence affected the nurses' wellbeing and job stress at work. More specifically, nurses with high emotional labour (measured by the dissonance between how one perceives and expresses feelings) showed lower wellbeing and high levels of job stress. Further, emotional intelligence moderated the relationship between emotional labour and job stress, so that

when nurses feel high emotional labour, high levels of emotional intelligence are able to lower their job stress and therefore, increased their wellbeing. In other words, ability to self-regulate one's emotions effects the relationship between feeling malaise (from having to put up an emotional front to cater for patient needs) and stress from work demands, and thus reduces the negative outcomes of SWB such as emotional exhaustion.

The study by Karimi et al. (2014) supports the theory that when nurses are able to regulate their own emotions and their responses to difficult or distressed patients/clients, co-workers, or other health professionals/stakeholders, they are able to better manage their levels of wellness by being less worn out, exhausted, tensed, or nervous. At the same time, under the pressures of their demanding jobs, they can regulate their job stress. Moreover, in this study (Karimi et al., 2014) the outcome variables job stress and wellbeing are related, which suggests that when job stress increases as a result of emotional dissonance it threatens nurses' wellbeing. Since literature shows that wellbeing influences turnover intentions (Cropanzano & Wright, 2007), reduced wellbeing of nurses due to job stress can lead to such costly outcomes for the organization. The study by Karimi et al. (2014) thus highlights the importance of two emotion-processing predictors, emotional labour and emotional intelligence, as significant antecedents of the EWB of nurses.

Common predictors of wellbeing have also been reported in the literature, but these antecedents mainly explore SWB. For example, in an Iranian cross-sectional study (Khosrojerdi et al., 2018), nurses are assessed for happiness with subjective predictors such as satisfaction with mental health, satisfaction with salary, quality of life, job satisfaction, and satisfaction with physicians' conduct and performance. The study also

assessed some objective occupational antecedents of happiness, such as work shift, current hospital, ward and salary, and the demographic predictors of happiness, such as age, length of work in the current ward. This study analysed 422 competed surveys, and simple descriptive statistics revealed above-average happiness. This finding that people are generally happy and report experiencing positive emotions above a neutral baseline is indicated in earlier studies (e.g. Diener & Diener, 1996), but it also contradicts other studies (e.g. Dilig-Ruiz et al. 2018) that report a lower SWB of nurses at work.

Further, Khosrojerdi et al. (2018) found that ten predictors (that are, quality of life, working in psychiatric wards and in a fixed morning or evening shifts, shorter length of working in the current ward, older age, higher salary, greater job satisfaction and higher satisfaction with salary, mental health, and physicians' conduct and performance), together explained 50% of the variance in happiness (Table 2, p. 283). Limitations of their study are that the data were obtained from a single source, and it primarily focused on SWB in life (for example, quality of life) and WWB factors (for example, job satisfaction). Though mental health is one of the prominent predictors of happiness (Keyes et al., 2002), the study did not test for the presence of 'mental illness' (for example, employee burnout), nor did the study examine any eudemonic dimensions of PWB (for example, autonomy, meaning, or personal growth as predictors of happiness).

By incorporating some of these mental health factors and eudemonic PWB factors within the domain of health care, researchers have started to integrate and relate hedonic WWB factors (like job satisfaction), hedonic workplace ill-being factors (like burnout, job stress) with eudemonic WWB factors (like relationships with colleagues). For example, in a systematic review, Dilig-Ruiz et al. (2018) found that the SWB factor of job satisfaction in nurses is related positively to eudemonic factors like autonomy,

teamwork, and cohesion, and negatively to psychological distress factors like job stress, burnout, and emotional exhaustion.

Thus, in the health care domain, EWB is measured by how the health worker generally feels and functions in life and work; as well as by the negative factors of EWB that is related to high burnout, job stress, and emotional labour. To examine the significance of wellbeing specifically at work Section 2.3.5 reports some of the significant outcomes of wellbeing studies. This is followed by a subsection (2.3.5.1) on the outcomes of wellbeing in the health care sector.

2.3.5 Outcomes of wellbeing

Research has linked the common and related facets of wellbeing, such as life-satisfaction, positive and negative emotions, and dispositional affect, to health, personal, and organizational outcomes (e.g. Kanasky & Diener, 2017). However, in addition to these variables of wellbeing, Wright & Huang (2012) comment that, over time, wellbeing has also been considered as mental health, emotional exhaustion, domain satisfaction, and subjective, psychological, and emotional wellbeing. Further, Wright & Huang acknowledged that the term ‘wellbeing’ has been interchangeably used with ‘happiness’ in the literature. Though the term ‘happiness’ or ‘happy’ can be vaguely used in common parlance to mean any lack of distress (as in, happy to read a book, or spending time idly), in the literature it is measured by one or more of the variables of wellbeing mentioned above. Hence, literature on wellbeing outcomes in organizational science must look for both, of the terms ‘wellbeing’ and ‘happy’.

Wellbeing dimensions are related to work outcomes (job performance, employee retention, workplace accidents, sick days, absenteeism, customer engagement, quality

defects, profitability) and to health outcomes such as cardiovascular health, obesity, and disease burden (Wright et al., 2009). For details on the influence of wellbeing on key areas of life, such as work performance, health, resilience, and social relationships, see Kanasky & Diener (2017), and Diener et al. (2017). Since this study is on the influence of employee wellbeing on organizational citizenship behaviours, the following paragraphs report on only those organizational outcomes of wellbeing that pertain to the OCB type of employee performance.

Much of the outcome research of wellbeing in organizational science appears to examine mainly one or more variables of SWB. For example, Dalal et al. (2012) look at the influence of trait affect, on performance; Staw et al. (1994) look at positive affect and work outcomes; and Brand et al. (2010) focus on the effects of life satisfaction, burnout, and emotional exhaustion in organizational citizenship behaviour. Specifically, low levels of subjective wellbeing have implications for organizations, for example, increased absenteeism, low team morale, high turnover, less proactive and more deviant behaviours at work. In addition, life satisfaction has been related to reduced turnover intentions (Rhode et al., 2007), increased employee motivation, and enhanced customer service (Cook, 2011; Hsieh, 2010).

Jones (2006) on the other hand, showed that life satisfaction influenced effective performance, even after being controlled for its contextual measures (job satisfaction and organizational commitment). Moreover, negative correlations between life satisfaction and absenteeism are also reported in earlier studies (Judge & Locke, 1993 cited in Erdogan et al., 2012). A meta-analysis by Ford et al. (2011) indicated that high levels of worker wellbeing result in the more effective use of work time, increase in quality of work, improved interpersonal effectiveness at work, less frequent and resolved conflicts

at work, loyalty to employers, civic participation, and increased creativity and innovation at work. Hence, these examples of research point to the importance of SWB in both individual and organizational outcomes.

Instead of testing the general SWB facets in the life of an employee, some studies have also focused specifically on SWB at work. For example, Erdogan et al. (2012) in a meta-analysis of life satisfaction (LS) and job satisfaction (JS)— which is SWB at work— argued for an interesting relationship between these two SWB variables with turnover and turnover intentions, respectively. They showed that even though studies indicated a positive relationship between LS and JS, intention to leave or the actual departure from the organization is more contextual and complex. For example, since turnover influences one's whole life, job dissatisfaction (low JS) may not necessarily lead to turnover if the individual is satisfied with life overall.

Yet, overall life satisfaction can also be a buffer against an unhappy worker's decision to resign. Further, Erdogan et al. (2012), from their meta-analysis, suggest that, where there is job dissatisfaction but greater life satisfaction, a worker may change jobs intentionally as a positive career move. But if a job is the cause of a dissatisfied life, turnover may further add to life dissatisfaction (Erdogan et al., 2012). The meta-analysis therefore indicates that both job satisfaction and life satisfaction are significant factors in measuring wellbeing and directly affect an important organizational outcome, turnover.

In a study on 112 managers, Wright et al. (2007) investigated the relationship between wellbeing (measured by employee affect), job satisfaction, and voluntary turnover, and found that individuals with low levels of wellbeing and consequent job dissatisfaction are more likely to leave their job. They found that both aspects of SWB, job satisfaction and

wellbeing, had significant effects on job turnover: –0.25, and –0.39 respectively. Hence, studies such as Wright & Bonnet (2007) and Erdogan et al.'s (2012) meta-analysis indicate both SWB in life (like life satisfaction, or the presence of positive affect) and SWB at work (like job satisfaction) should be considered when assessing outcomes of EWB.

Whilst the field of organizational science has traditionally been interested in SWB, eudemonic variables of WWB factors, such as relationship with the leader, organizational justice, climate, and organizational trust, are of contemporary research interest (Diener et al., 2017). For example, in one study on 404 technical and administrative university staff in Spain, Pecino et al. (2018) investigated the relationship between interpersonal justice climate, levels of wellbeing facets (engagement and burnout), extra-role performance, and work–family balance. The authors (Pecino et al., 2018) found that interpersonal justice climate, which refers to employees' perception of fairness of treatment from the organization, is related to wellbeing facets of burnout and engagement.

Pecino et al. (2018) defined burnout as professional inefficiency or reduced emotional labour, cynicism, and emotional exhaustion; and engagement is defined as the persistent state of positive motivation in job performances, marked by high energy, willingness, and reaching target objectives. Pecino et al. also found that both burnout and engagement individually mediated the relationship between interpersonal justice climate and extra-role performances, such that when employees felt fairly treated they engaged more but, reported less burnout and in each case performed more OCB (in the presence of each of these mediators). The implications of Pecino et al.'s (2018) study is that future research should explore more work-related eudemonic factors of WWB, such as being treated fairly by the organization, across other professions and cultures.

Until recently, the happy productive worker thesis assumed a linear relationship between hedonic happiness (measured by SWB in life or SWB at work) and performance; that is, studies (e.g. Jones et al. 2006) reported that high SWB led to high performance and low SWB led to low performance . To address some of the main limitations of the happy-productive worker thesis, Peiro et al. (2019) conducted a study on 1647 employees, 81% of whom represented the service sector in Spain. The study incorporated both hedonic and eudemonic variables of wellbeing, considered different types of performances, (in-role, extra-role, and innovative or creative performances), and examined both synergetic and antagonistic relationships between these wellbeing and performance types.

In conducting cluster analysis and multidimensional logistic regression on their data, Peiro et al. (2019) found that more than 50% of the sample belonged to the unhappy-productive or happy-unproductive clusters, which indicates that antagonistic relationships exist between the respective facets of hedonic and eudemonic wellbeing and the various variables of performance . Peiro et al. selected only two variables of eudemonic wellbeing, namely personal growth and purpose in life—subscales from Ryff's scale of PWB (1989), thus lending support to the notion that eudemonic wellbeing may be represented by one or two variables as suited to the objective of the study, instead of measuring a large number of eudemonic PWB variables. Further, the study by Peiro et al. sourced the data on performances from both the employees and their supervisors, thus reducing errors due to common method biases in their results.

Having presented some of the significant outcomes of wellbeing, the following section presents some of the relevant wellbeing-outcome studies specific to health care.

2.3.5.1 Outcomes of wellbeing in health care

Inadequate staffing, excessive workload, poor leadership, lack of support, and opportunity to develop are some of the reasons given for inadequate wellbeing of health professionals (Duffield et al., 2014; Johnson et al., 2018). High job stress, the burden of emotion labour, and lack of work–life balance, are also some of the problems inherent in the health care profession. Consequently, 'high levels of burnout and poor wellbeing in healthcare staff are an international phenomenon' (Johnson et al., 2018, p. 21). For example, a study (Aiken et al. 2012) of more than 60,000 nurses across twelve countries found that, in nine countries, more than a quarter of the nursing workforce is burnt-out, with rates as high as 78% in Greek nurses.

In Australia nurses represent the largest proportion of healthcare staff, (<https://hwd.health.gov.au/summary.html#part-3> viewed 8th March 2020) and play a critical role in delivering exemplary health care. For nurses to perform at their best, they need to feel well, and feel supported at their workplace and in the organization so they can engage effectively at work. In one study (Gupta et al., 2016), 475 nurses are assessed on the influence of perceived organizational support, psychological contract breach (that is, perception of unfulfilled expectations), and affective commitment on work outcomes (that is, work engagement and OCB). In this study, nurses' SWB at work (referred to as WWB in the literature) is assessed by job attitudes of affective commitment, work engagement, and psychological contract. In this hierarchical multiple regression study Gupta et al. found that affective wellbeing mediated positive relationships between perceived organizational support and work outcomes like perceived psychological contract breach and OCB.

Further, Sharif et al. (2017) studied 345 nurses from two large public hospitals in Malaysia to identify the relationship between organizational support (a work-related wellbeing factor) and quality of care, job satisfaction, positive, and negative affect. In the study by Sherif et al. (2017), organizational support is related to quality of care, job satisfaction, and SWB at work; however, positive and negative affect or emotions mediated the relationship between organizational support and quality of care. Hence, the study indicates that the WWB facet (organizational support) affects nurses' in-role performance as measured by quality of patient care, SWB at work, and job satisfaction. Further, the Sherif et al.'s study indicates that the relationship between organizational support—quality of care and organizational support—job satisfaction, are each enhanced when nurses reported a higher SWB in life, for example, higher positive emotion and lower negative emotion.

The implications of positive organizational support in the study (Sherif et al., 2017) can be at least, two-fold: (1) Better quality of care is related to customer loyalty and corporate reputation; and high job satisfaction is related to low turnover intentions and turnover (Erdogan et al., 2012). This in turn can have significant consequences for organizations. (2) EWB of health professionals must incorporate variables of SWB in life (for example, positive affect), SWB at work (for example, job satisfaction, and other WWB factors (for example, perception of organizational support).

Johnson et al. (2018) found that staff in mental health care reported poorer wellbeing than staff working in other health sectors; further, poor wellbeing and higher burnout are associated with outcomes like poor quality patient care, poor safety of patient care, higher absenteeism, and higher turnover rates. Johnson et al.'s systematic review also found that health professionals reported high burnout; for example, 69% of psychotherapists in the

UK alone reported burnout. Moreover, studies showed absenteeism and turnover are related (e.g. Berry et al., 2012), and that annual turnover in nurses ranged from 15% to 44%, and even higher in mental health nursing, ranging from 28% to 52% (e.g. Duffield et al., 2014; Aarons & Sawitzky, 2006). Turnover of health professionals has tremendous effects in the health industry for any country (Duffield et al., 2014): turnover in the nursing industry in Australia costs healthcare organizations up to $50,000 per nurse, including temporary replacement cover, recruitment, and training of new staff (Duffield et al., 2014). High turnover has also been related to poor service delivery and poor patient feedback, which affect the health outcomes of the profession.

In addition to the outcomes of wellbeing (and burnout) on the overall quality of care, a critical outcome of wellbeing in the health care sector is patient safety. Research indicates that 16.6% of hospital episodes and 5% of prescription errors in primary care in Australia are related to patient safety (Avery et al., 2012, in Hall et al., 2016). Human errors may often occur because of poor mental health. A review by Hall et al. (2016) on healthcare staff illustrates the need for improving employees' mental health and in turn creating safer work environments to enhance patient safety. In a systematic review these authors reported only 46 empirical studies (using the search engines of Psychinfo, Scopus, Medline) that looked at wellbeing, burnout, and patient safety in the health profession. In this way, the authors found that in only 16 studies out of 46 was there a correlation between reduced wellbeing and adverse patient safety; only 21 of those studies associated burnout with patient safety; and 11 studies examined all three search terms, wellbeing, burnout, and patient safety.

Though Hall et al. (2016) indicated that the definition of mental health required more clarity in the literature, the number of studies identified with these search terms are

evidently very low, despite other research indicating the importance of patient safety in determining quality of care, reputation, profits, and costs in the health profession. Further, in relation to the clarity of the definition of mental health, earlier Keyes et al. (2002) had defined mental health on two distinct continuum, i.e. mental illness and mental wellness. However, Hall and colleagues (2016) identified that the literature has often used burnout as a proxy of wellbeing, yet the antecedents, nature, and consequences of burnout and wellbeing are distinct. Hence, future studies can expand of the definition of EWB of health professionals and test its influence on significant organizational outcomes like patient safety. They can also perhaps investigate the mediating roles of OCBs towards individuals and the organization.

The literature so far discussed in this chapter on the nature, antecedents, and consequences of the EWB variables (that is, subjective, psychological, and WWB) and OCB shows the importance of these respective variables in organizational science. This study will draw on the EWB variables as predictors, and OCB towards clients, teammates, and the organization as outcomes. Section 2.4 proposes the research questions for this study to test the link between wellbeing and citizenship performance of nurses and allied health professionals in Australia. These research questions form the basis of the Chapter 3.

2.4 Research questions

The research questions established for the study are:

RQ1. Is there a relationship between each aspect of the EWB construct and OCB towards clients, teammates, and the organization?

RQ2. Does EWB influence OCB towards clients, teammates, and the organization?

RQ3. Does SWB influence OCB towards clients, teammates, and the organization?

RQ4. Does PWB influence OCB towards clients, teammates, and the organization?

RQ5. Does WWB influence OCB towards clients, teammates, and the organization?

To answer these research questions in this study further literature on theoretical underpinnings and empirical studies will examine the extent to which EWB and its variables are related to OCB. Chapter 3 investigates the available literature based on these five research questions.

2.5 Chapter summary

OCB are employee prosocial activities 'beyond their call of duty' that have significant individual level and organizational positive benefits for the organization. This chapter described OCB from literature and specifically explores three distinct dimensions of OCB: OCB towards clients, towards teammates, and towards the organization. Following this, three EWB variables (i.e. subjective, psychological, and WWB), as distinct antecedents to the dimensional OCB, are described. Based on the literature, broad research questions are posited.

Chapter 3 discusses theoretical frameworks for the associations found in the literature between EWB factors and OCB. This will assist in ascertaining the extent to which

employee wellbeing variables have been tested as antecendents to OCB, especially in the health sector in Australia. In Chapter 3, three theoretical underpinnings are explored along with empirical studies that link EWB that is, SWB, PWB, WWB) to dimensional OCB towards clients (OCBIc), teammates (OCBIt), and the organization (OCBO). Research gaps are highlighted and relevant hypotheses are posited.

CHAPTER 3

THEORETICAL FRAMEWORKS

3.1 Introduction

Chapter 2 identified the literature on the nature, antecedents, and consequences of the study constructs of this study, i.e. organizational citizenship behaviour (OCB) and employee wellbeing (EWB). In this study the employee wellbeing variables (EWB), i.e. subjective wellbeing (SWB), psychological wellbeing (PWB), and workplace wellbeing (WWB), are chosen as the exploratory or predictor variables and, the OCBs towards clients (OCBIc), teammates (OCBIT), and the organization (OCBO) are chosen as the outcome variables. In this context, this chapter examines the theoretical frameworks, in the light of the available literature on direct or indirect relationships between these study variables.

Specifically, the description of theoretical frameworks is in two parts. The first part addresses 'why' wellbeing constructs may be linked to OCBs, and therefore borrows three underlying mechanisms from the literature: Fredrickon's 'Broaden and Build theory' (1998); Hobfoll's 'Conservation of Resources theory' (1989); and Blau's (1964) 'Social Exchange theory'. The study proposes combing these three underpinning theories to explain systematically and, conceptually 'why' wellbeing indicates OCBs but does not test it in this study. The second part of the chapter identifies empirical studies that are directly linked to the empirical model of this research. These quantitative studies identified and explains 'what' types of wellbeing factors can be related to citizenship behaviours and helps to build an empirical model for the study. Consequently, based on the available empirical literature, research gaps are identified, and hypotheses developed

to explore whether each of the EWB and its variables, i.e., SWB, PWB, WWB, will both, relate to, and have an influence on each of the OCBIc, OCBIt, and OCBO variables in the empirical model of the study.

3.2 Underlying theoretical mechanisms

In this section each of the three theoretical frameworks— 'the Broaden-and-Build theory' (Fredrickson, 1998), 'the Conservation of Resource theory' (Hobfoll, 1989), and the 'Social Exchange theory' (Blau, 1964)—are introduced. This is followed by describing how these theories explain the link between EWB and organizational citizenship behaviour.

3.2.1 Broaden-and-Build (B&B) theory

The prime assumption of B&B theory claims that positive emotions trigger a flight of positive thoughts and actions, which over time with repetitions, gives rise to enduring habitual psychological resources and strengths that help an individual to adapt effectively to his/her environment (Fredrickson, 1998). More specifically, in this theory, the author (Fredrickson, 1998; 2001), suggests that, classes of emotions (e.g., positive versus negative) are linked with classes of thoughts and behaviours, which are referred to as 'thought-action repertoires.' Further, Fredrickson (2003) explains that positive emotions travel in a 'spiralling upward movement' that 'broadens' and elicits positive thoughts and behaviours. These positive thoughts and behaviours then create more positive emotions, and that over time and with frequent repetition these cyclic patterns 'build' habitual personal and psycho-social resources to function and adapt well in life. Consequently, the developed personal and psycho-social resources help one live a more goal-oriented, meaningful, and purposeful life, which is referred as 'flourishing' in the literature

(Seligman, 2010; Su et al., 2014); as well as help one to cope with the everyday hassles and crises in life (Fredrickson et al., 2000). Hence, the B&B theory (Fredrickson, 1989) fundamentally argues that positive emotions shape the way individuals interact and engage in their physical and social world.

Recently, the B&B theory (Fredrickson, 1998) has been adopted in management literature to explain how positive emotion trigger positive organizational behaviours like OCB. Positive emotions, however, are investigated in various forms in the literature. Seligman (2004) classified positive emotions into three time-related perspectives, as those related to the past, present and future. For example, in an article by Kardas et al. (2019), the author quotes Seligman's (2004) classification of positive emotions into three time-related perspectives,

> optimism, hope, and confidence express positive feelings about the future; while satisfaction, gladness, and tranquillity express positive feelings about past; and physical pleasures like momentary pleasures, and persistent pleasures like joy, comfort, merriness and enthusiasm express feelings about present (p. 83).

Further, the B&B theory (Fredrickson, 1998) postulates that an employee experiencing hedonic positive emotion, like satisfaction, will develop other functional positive emotions over time and practice, such as resilience, and functional wellbeing capabilities such as autonomy in the workplace. These positive emotions and capabilities will influence a person to 'broaden' their behaviour repertoire. Therefore, according to Fredrickson's B&B theory (1998) feelings of positivity, or any of the positive discreet emotions (as suggested by Seligman, 2004), will elicit positive actions such as OCB.

From this perspective, literature, such as, Wright & Staw (1999), report employees who demonstrated frequent positive emotions tended to be more socially engaged at work, and, therefore, had higher OCB; compared to those who reported low positive emotions. Hence, the lens of the B&B theory (Fredrickson, 1998) can be used to explain how aspects of SWB (positive affect/ emotions, satisfaction, resilience, hope, comfort) can influence OCB type of employee performance (e.g. Kaplan et al., 2009; Lambert et al., 2010, Alessandri et al., 2012; Kim et al., 2014). Empirical research literature on B&B theory will be presented later in this chapter to support the development of hypotheses for this study.

3.2.2 Conservation of Resources (COR) theory

COR theory (Hobfoll, 1989) postulates that personal and environmental resources are unique to each individual and are a means for individuals to achieve significant objectives in life and in the workplace. COR theory broadly defines 'resources' as conditions, personal characteristics, and energies that are used for personal and organizational gains. From this perspective, the hedonic (e.g. positive emotions, satisfaction), and eudemonic (e.g. autonomy) aspects of wellbeing, experienced by an individual are psycho-social resources which are used for beneficial outcomes in life.

The crucial assumptions of COR theory are that people: (1) strive to accumulate and protect resources in order to cope with stressful situations and prevent themselves from having to face negative consequences; and (2) invest the resources they have in order to build resources (i.e. the so-called 'gain spirals'). Applying these two theoretical assumptions of COR (Hobfoll, 1989), it can be stated that when crucial resources such as positive psychological states and strengths are available to the employee, it enhances the

likelihood of engagement in OCB (e.g. Zelenski et al. 2008; Avey et al. 2008; Gore et al. 2014) for personal gains like influencing one's manager's decisions for reward allocations.

Hence, according to the lens of the COR theory, hedonic SWB and eudemonic PWB are psychological resources that help one to feel and function well both in life, and in the various domains of life. These psychological resources are used to engage in OCB to cope, or to prevent negative consequences, or as a means of personal gain. For example, wellbeing resources can be invested in valuable OCB for gaining an advantage in performance appraisals. Indeed, research demonstrates that people tend to invest their extra psychological / wellbeing resources into positive efforts and enterprises (Salanova et al., 2010; Simbula & Guglielmi, 2013), which can be explained from the perspectives of the COR theory (Hobfoll, 1989).

Further, in COR theory the process of mutual fostering between resources and performance behaviours, known as gain spirals, means that EWB and OCB relations are reciprocal. For example, from the COR viewpoint, positive emotions can lead an employee to voluntarily help a colleague (OCBI) or to protect work property (OCBO), and, in return, these discretionary OCB can bring the worker positive emotions (Glomb et al. 2011). Though this study will explore a linear relationship of the relationship and influence of EWB on OCBI , and OCBO, the literature also indicates a reciprocal causal relationship between positive psychological resources, such as positive affectivity, and OCB (Kim et al., 2014) that can be explained with the COR theory (Hobfoll, 1989).

An important observation can be made here by comparing the COR theory (Hobfoll, 1989) with the previously described B&B theory (Fredrickson, 1998). The idea of 'gain

spirals' of psychological resources in COR theory and the 'upward spiralling' of positive affect (to develop more psycho-social resources) in the B&B theory, each appear to indicate the mutual growth in psycho-social resources that are utilized for adaptive functions in life and at work. However, there is a significant difference in the two theories. In B&B theory the 'upward spiralling gains' explain why the potential cause in resource building is a positive affect that prompts the cyclic development and mutual growth of psycho-social resources. On the other hand, 'gains spirals' in COR theory specifically postulates how these psycho-social resources such as positive emotions are used for personal gains or to avoid negative consequences. Hence, both theories presented together can provide a more robust explanation of how psycho-social resources, developed through the B&B theory, lead to positive employee performances such as citizenship behaviours (Simbula & Guglielmi, 2013).

In this study, from the B&B perspective, it is assumed that the EWB variables such as the SWB, PWB, and WWB are the psycho-social resources such as positive emotions, autonomy, leader support and trust. Further, the influence of these EWB resources on OCBIc, OCBIt, and OCBO can be explained by the B&B theory's broadening behavioural/action repertoire, and by the COR theory's investment of these psychological resources for personal gains. These two theoretical mechanisms can be used to understand the link between EWB variables and OCB. Another popular underlying mechanisms that explains OCBs in the literature is SET (Blau1964), and is explained below.

3.2.3. Social exchange theory (SET)

Social exchange theory (Blau1964) in organizational psychology refers to the interactions of two or more individuals where the fair action of one party influences the consciously

driven behaviours of the other party. This means that if one worker feels that he or she has been fairly treated or rewarded by the other in the workplace (colleagues, supervisors, managers, and the organization itself), then the worker is likely to return the favour as a token of appreciation or satisfaction and 'in exchange' for the fairness and support received from the other. Organ & Konovsky (1989) proposed that employees who are 'fairly treated' engage in behaviours outside their prescribed roles and participate in OCB. Presenting the social exchange theory (Blu, 1964), the authors (Organ & Konovsky, 1989) explained that this is to maintain equilibrium or a relatively mutual sense of 'give and take' between themselves and the organization. Conversely, therefore, those who feel unfairly treated will withhold OCB.

Further, to fully understand the social exchange theory it is important to explain its two underlying rules. The first rule of SET is the 'rule of reciprocity', which states that if employee A helps employee B, then employee B helps employee A, or is expected at least not to harm employee A. The second rule of SET is the 'rule of rationality', which describes individuals as logical beings who make decisions to maximize rewards. Any two parties in such an exchange relationship can be working towards the same goal or towards conflicting goals. Hence, according to SET, even if a worker feels fairly treated, he or she may not invest in OCB unless these trade-off behaviours bring him/her maximum benefit. For example, employees can engage in OCB in exchange for being supported by their supervisor, but they will do so only when their objective is not in conflict with that of the supervisor, and in doing so they gain favourable performance evaluations by their supervisor.

SET has gained impetus in organizational psychology to explain various correlates of OCB. For example, from the lens of the social exchange theory (Blau, 1964), procedural

justice determines citizenship behaviours (Moorman (1991); and this relationship is mediated by perceived organization support (Moorman et al., 2001). Whilst procedural justice outlines the employee's perception of fairness at work, organizational support represents the employee's perception of feeling supported. In terms of the 'reciprocity norm' in social exchange, workers who feel that their employer and colleagues are fair, care for their wellbeing, and value them, will in return feel a sense of obligation towards them. The worker will therefore reciprocate this positive treatment (for instance, organizational support) with increased commitment, loyalty, high in-role performance (Lee & Peccei, 2007) and extra-role citizenship behaviours (Coyle-Shapiro, Kessler & Purcell, 2004). Another study found employees are likely to engage in OCB because of not only the perceived fairness of the job conditions, but also when they are involved in the decision-making processes and receive the leader's support (Ung Hee et al., 2013). Such things can make the employee feel valued.

Up to this point, individual theoretical mechanisms or underpinnings of B&B, COR, and SET have been presented to make a case for the assumptions of positive relationships between EWB variables, and the OCB dimensions of this study. In the next section these three theoretical mechanisms are combined systematically to provide a deeper understanding of the wellbeing–OCB link.

3.2.4 The combined underpinnings of B&B, COR, & SET: A systematic explanation

Though the B&B theory, COR theory, and the SET each explain the EWB–OCB link, a combination of these theories can provide a more robust explanation. For example, OCB researchers (e.g. Bolino et al., 2012) have suggested that future studies should combine

theoretical mechanisms to explain the continuity of OCB in an organization. Following Bollino's suggestion (2012), this study will not only adopt this newer approach to combining the selected three theories but will present them in a logical way to show how wellbeing may determine OCB.

In the literature, authors of OCB have combined theoretical underpinnings. For example, Mansor et al. (2012) explored case studies from the high-performing Fortune 100 firms, in which employees' perceived organizational support (POS) led to positive affect and positive psychological resources that then mediated the relationship between POS and employee citizenship behaviours. In their case studies Mansor et al., (2012) utilized the theoretical lens of SET, in which perceived social support leads to employees' positive self-evaluation and positive emotions; and from the B&B perspective, positive emotions lead to OCB. Hence, Mansor et al. (2012) combined the two theories, so that SET (Blau, 1964) and B&B theory (Fredrickson, 1998) depict the mechanisms of how social support leads to citizenship behaviours, through positive affect and positive psychological resources.

Further, in a longitudinal study on 157 school-teachers Simbula & Guglielmi (2013) combined B&B theory and COR theory to explain a reciprocal relationship between work engagement, mental health problems, job satisfaction, and OCB. Simbula & Guglielmi showed that.

> engaged workers reported better mental health (e.g., Innstrand et al., 2012), more extra-role behaviours (Rich et al., 2010), and a higher level of job satisfaction (Brunetto et al., 2012) (p. 118).

In the study by Simbula & Guglielmi (2013) job satisfaction and good mental health

influences work engagement through the lens of B&B theory (Fredrickson, 1998), whilst COR theory explains how the 'engaged employees invest these resources in positive outcomes like OCB.

However, research on how all these three underpinning mechanisms can be combined in a logical fashion has not yet been conceptualized in wellbeing–OCB literature. Hence, the combination of these three popular theoretical mechanisms underlying wellbeing motivation for OCB is identified as a research gap, which is addressed in this study. In doing so, this research will make a small contribution to the theory on employee wellbeing and the dimensional OCB.

Research Gap. *The combination of the underlying mechanisms of Fredrickon's 'Broaden and Build theory' (1998), Hobfoll's 'Conservation of Resources theory' (1989), and Blau's 'Social Exchange theory' (1964), in a systematic manner will provide a robust explanation for the EWB–OCB association.*

The systematic combination of the three selected theoretical mechanisms underlying the wellbeing–OCB link for this study is proposed as follows:

1. From the perspective of the Fredrickson's Broaden-and-Build theory (2001), positive emotions lead to encouraging the existing and prompt new psycho-social resources. In relation to this study, when nurses and allied health professionals experience high levels of SWB (that is, more positive affect and satisfaction in life this will prompt the development of psychological resources such as the 'purpose in life' dimension of PWB. Over time, through repetitive use, these psychological resources become stable and enduring. The same wellbeing dynamics at work can also be explained by the B&B theory, which

will lead to the development of WWB resources, e.g. work satisfaction (Parker & Hyett, 2011). Hence, from the perspectives of the B&B theory, positive SWB will develop the functioning wellbeing resources in life, i.e. PWB, and that at work, i.e. WWB; and each of these wellbeing resources will further prompt positive organizational behaviours such as OCB.

2. Once the personal, psychological, and behavioural resources are activated (explained by the B&B theoretical mechanisms), the theoretical lens of Hobfoll's COR theory (1989) explains that individuals uniquely accrue resources to conserve or save for needs-based expenditure on helpful efforts. In relation to the current study, COR theory (1989) says that nurses and allied health professionals will invest their wellbeing resources (SWB, PWB, WWB) and behavioural resources (OCB towards clients, teammates, and the organization) when the individual nurse or health professional sees a gain in doing so, or in times when he or she needs to mitigate stress. Hence, the COR theory explains a natural human inclination to accrue, save and use such resources, in times of need and to potentiate a gain (gain spiral, explained above).
3. SET (Blau, 1964) offers a set of 'social exchange' circumstances, under which the developed psychological resources can be deliberately used in positive organizational behaviours such as OCB. Applying the lens of SET to the present study, when nurses and allied health professionals perceive fairness and equity at their workplace, with their teammates or with their clients, they are likely to put in the extra effort of citizenship behaviour in 'exchange' for being well regarded.

Hence, the logic of the three underlying mechanisms is as follows: B&B theory indicates how psychological resources of wellbeing develop from positive emotions; COR theory explains how these developed resources are stored for positive functioning at work, either to mitigate stress or for a timely investment in a personal or work-related gain; finally, SET explains the factor of experienced fairness at work and the consequent reciprocation of OCB as exchange behaviours. Indeed, each theoretical mechanism on its merit also explains the EWB-OCB link.

These three theoretical mechanisms have not hitherto been combined in this methodical way, which therefore addresses the above-mentioned research gap. Thus, this aspect of the research will appear for the first time in the wellbeing–OCB literature.

Particularly, in this study, the combination of the underlying mechanisms of Broaden and Build theory, Conservation of Resources theory, and Social Exchange theory, explains why EWB determines citizenship behaviour towards clients (OCBIc), teammates (OCBIt,) and organization (OCBO).These theoretical underpinnings will also be considered in Chapter 8 to discuss this study's findings.

Further empirical studies of OCB are now examined to identify research gaps. The gaps will specify which employee wellbeing precursors of OCB are tested in the literature and help develop the hypotheses for this study. Since the study is on nurses and allied health professionals, empirical studies on wellbeing and citizenship behaviours specific to the health profession are also examined and presented.

3.3 Empirical studies

Research indicates a high rise in worker's compensation cases, increased sickness, loss of workdays, emotional exhaustion, and work burnouts (for example, https://www.safeworkaustralia.gov.au/topic/mental-health). This is partly due to financial crises, globalization, and the resulting job insecurities, but it is also due to employer expectation for the employee to do more with less, which causes stress. Moreover, the high reliance on technology means that employees communicate more and more through electronic devices, and this affects the individual's need for relatedness, belongingness, and comradeship at work. Gone are the days when employees greeted their supervisors with a 'good morning' upon arrival at work. Now, employees are rather encouraged to record electronically their log-in and log-out times. As a result, recent technological advances may have de-humanized organizations. Communications are taking place with the click of a button, and tasks are conducted by robots. In this milieu, maintaining positive employee wellbeing to engage in OCB may be challenging.

This study explores the three variables of EWB, i.e. SWB, PWB, WWB as predictors to each of the OCBIc, OCBIt and OCBO in nurses, and allied health professionals. Whilst the previous section supports the underlying mechanisms, the next section presents available empirical studies on each type of the EWB variables as predictors of OCB. Subsequently, hypotheses are developed on the associations between the distinct employee wellbeing factors and dimensional OCB.

3.3.1 SWB on OCB

There has been some significant research into the positive and negative affect on employee performances, including citizenship behaviours. For example, in a study by George (1991), positive mood, a correlate of SWB, influenced prosocial behaviours like altruism and customer service, over and above cognitions (for example, supervisor fairness, store manager fairness). In addition, George & Brief (1992) suggested that positive moods lead to prosocial behaviours such as making constructive suggestions. However, these studies explore prosocial behaviours that are not limited to citizenship behaviours. Nevertheless, George's studies (1991, 1992, 1997) did encourage future research to test the influence of positive and negative affect on citizenship behaviours.

Further, a review of a recent meta-analysis of 57 studies (Kaplan et al., 2009) on the role of positive and negative affect in performance dimensions (including OCB) indicated that both positive affect and negative affect are related to unidimensional OCB. In that review, Kaplan et al. showed that positive affect encouraged employees to engage in OCB, whilst negative affect discouraged employees to engage in OCB. Beyond the affect studies linked to OCB, life satisfaction has also been positively correlated to OCB (Lambert, 2010). Alessandri et al. (2012) demonstrated that the composite positive orientation (a disposition made up of self-esteem, life satisfaction, and optimism) influenced OCB beyond the individual components of positive orientation, the 'big five' personality traits, and positive affectivity.

These studies have specifically found positive relationships between positive affect, negative affect, life satisfaction, and citizenship behaviours (e.g. Staw et al., 1994; Organ & Konovsky, 1989, 1997; Kaplan et al., 2009; Dalal et al., 2012; Alessandri et al., 2012).

In other words, taken together, these studies found a positive association between SWB, and OCB, however, did not explore the dimensional OCB framework of OCBI and OCBO (Williams & Anderson, 1991).

3.3.1.1 SWB on OCBI and OCBO

As noted above, studies on SWB as a correlate of OCB have mainly taken OCB as a unidimensional construct (e.g. Staw et al., 1994; Organ & Konovsky, 1989, 1997; Kaplan et al., 2009; Dalal et al. 2012; Alessandri et al., 2012). However, the literature indicates studies that have examined OCB categorized as OCBI and OCBO (Williams & Anderson, 1991), for example, Lee and Allen (2002), who collected data from 149 nurses and their co-workers on their affect, cognitions, and citizenship behaviours. They found that job affect, more than job cognitions, are strongly associated with OCBI, whereas job cognitions rather than job affect are correlated more strongly to OCBO.

Further, Gore et al. (2014) conducted a study on 2566 students that examined positive affect, negative affect, life satisfaction, personality traits, and multidimensional organizational citizenship. Gore et al.'s study, found that after controlling for personality traits, positive affect and life satisfaction each influenced OCB dimensions like consideration, civic virtue, and conscientiousness among students in school; whilst negative affect influenced OCB like conscientiousness and sportsmanship. All three variables of SWB (positive and negative affect, and life satisfaction), in Gore et al.'s study, therefore, imply that SWB predict OCBI (considerations), and OCBO (civic virtue, conscientiousness, and sportsmanship) respectively.

Even though some studies have examined the link between SWB, OCBI, and OCBO (Lee & Allen, 2002; Gore et al., 2014), no studies have been found that aimed at finding the relationship and influence of SWB on OCBIc, OCBIt and OCBO in both nurses and allied health professionals.

Research gap: *There are no identified studies that explore the influence of SWB (typically measured by positive affect, negative affect, and life satisfaction) on dimensional OCB towards clients, teammates, and the organization for nurses and allied health professionals.*

Based on the studies outlined above (Staw et al., 1994; Organ & Konovsky, 1989, 1997; Kaplan et al., 2009; Dalal et al., 2012; Alessandri et al., 2012; Lee & Allen, 2002; Gore et al., 2014) the following hypotheses are developed to test for a positive relationship between SWB and OCBIc, and OCBIt and OCBO, respectively.

H1. SWB is positively and significantly related to organizational citizenship towards clients (OCBIc).

H2. SWB is positively and significantly related to organizational citizenship towards teammates (OCBIt).

H3. SWB is positively and significantly related to organizational citizenship towards the organization (OCBO).

3.3.2 PWB on OCB

PWB, from the eudemonic point of view, generally focuses on understanding the causes of an individual's positive psychological health and functioning. PWB encompasses

virtues, values, psychological needs, and psychological resources that can make a person's life and its various domains, including work, fulfilling and flourishing (Ryan & Deci, 2008). Roche & Haar (2013) showed that the fulfilment of psychological needs of autonomy, relatedness and competence was positively related to OCBs. Later, Yong et al. (2019) demonstrated that supervisor's support for psychological autonomy in employees lead to the satisfaction of eudemonic psychological needs, which then influences both wellbeing and performance outcomes. As mentioned in Chapter 2, Ryff (1989) put forward a multidimensional psychological well-being model, which comprises six dimensions: self-acceptance, positive relationship with others, autonomy, environmental mastery, purpose in life, and personal growth. However, research that directly link eudemonic PWB to OCB is scarce in the literature (Roche & Haar, 2013).

Since SWB and PWB are distinct but related (Ryan & Deci, 2001; Keyes et al., 2002; Biswas-Diener et al., 2009; Joshanloo, 2019), research assumptions on the relationship between PWB, OCBI, and OCBO are implied through these empirical studies that associate SWB to PWB; and the underlying theoretical mechanisms as discussed in sections 3.2 and 3.2.4. However, in the literature, some empirical studies have indirectly linked PWB to OCB. Two such instances of deduced indirect relationships between PWB and OCB are work engagement and psychological capital (PsyCap), as presented below.

Work engagement is positively related to life satisfaction, positive affect and PWB (Kanste, 2011), and in another study (Brunetto et al., 2012), work engagement is positively related to job satisfaction, and positive affect. However, work engagement is also positively related to extra-role citizenship behaviours (Rich et al., 2010). Further, work engagement has been positively related to job satisfaction, mental health, and OCB (Simbula & Guglielmi, 2013). However, in literature (e.g. Kanste, 2011; Brunetto et al.,

2012; Simbula & Guglielmi, 2013), 'life satisfaction' represents a measure of SWB (Su et al. 2014); 'job satisfaction' represents a measure of WWB (e.g. Fisher, 2010), and 'psychological wellbeing' represents a measure of the eudemonic or functioning wellbeing (Ryff, 1989). Further, SWB is related to PWB (e.g. Joshanloo et al., 2019) and SWB is related to OCB (Gore et al. 2014) Therefore, based on the work engagement studies, it is safe to make the research assumptions that SWB, PWB, and WWB will influence OCB, and therefore, the dimensions in the OCBI-OCBO framework.

Another measure that indirectly links PWB to OCB is psychological capital (PsyCap) (Luthans & Youssef-Morgan, 2007, 2017). According to Luthans & Youssef-Morgan, PsyCap is a second-order construct consisting of four psychological states or positive affect states, hope, efficacy, resilience, and optimism, and has been related to OCB (Avey et al., 2008; 2011; Norman et al., 2010). In a meta-analysis by Avey et al. (2011), involving 51 independent samples and a total sample of 12,567 employees, the authors reported a positive influence of PsyCap on employee attitudes (job satisfaction, organizational commitment and PWB), and positive performance (OCB). Further, PsyCap mediated the relationship between eudemonic PWB and OCB (Avey et al., 2011). More recently Kurt & Demirbolat (2019) in their study on 12,714 teachers in a province of Turkey, found that PsyCap is associated with both job satisfaction (a measure of SWB at work) and eudemonic PWB. With the help of structural equation modelling, the study by Kurt & Demirbolat revealed that job satisfaction (a proxy of SWB at work) mediated the relationship between PsyCap and eudemonic PWB. However, based on Seligman's study (2004), the construct of PsyCap represents positive feelings about the future, and these positive feelings, therefore, represents SWB. Studies by Kim et al. (2018) and Sharma & Sharma (2019) found that PsyCap is positively related to eudemonic PWB.

However, PWB is positively associated with SWB (e.g. Joshanloo et al., 2019), whilst SWB is positively related to OCB (Gore et al., 2014). Hence, PWB can be assumed to relate with OCB, via PsyCap.

Summarizing from these studies (Avey et al., 2011; Kurt & Demirbolat, 2019) the link between PWB and OCB via PsyCap may be systematically presented in the following way: PsyCap is positively related to PWB and OCB (Avey et al., 2011). On the other hand, relationship between PsyCap and PWB is mediated by job satisfaction (Kurt & Demirbolat, 2019). Positive emotions and job satisfaction are variables of SWB in life and at work respectively. However, previous studies have linked hedonic SWB to eudemonic PWB (Kashdan et al., 2008; Keyes & Annas, 2009; Delle Fave et al., 2011; Joshanloo et al. 2019) and SWB to OCB (Organ, 1989; Staw et al., 1994; Organ et al., 1997; Chiu & Chen, 2005; Avey et al., 2008; Kaplan et al., 2009; Jain et al., 2012; Gore et al. 2014). Further, satisfaction of psychological needs like autonomy influences OCB (Roche & Haar, 2013). Based on these studies, and underlying theoretical mechanisms of B&B theory, COR theory, and SET, eudemonic PWB (for instance, measured popularly in literature by Ryff's scale of PWB, 1989) can be assumed to be positively related to OCB.

Research gap: *Literature indicates that there are limited studies that have examined the influence of PWB on OCB framework of OCBI and OCBO.*

Since this study will measure OCB towards individuals (OCBI) and the organization (OCBO) (Organ, 1989; Williams & Andrews, 1991; Allen & Lee, 2002; Tambe & Shanker, 2014), hypotheses are postulated about the relationships between PWB and OCBI and OCBO. Specifically, in this study the influence of PWB on OCB towards

clients (OCBIc), teammates (OCBIt), and OCBO are examined in nurses and allied health professionals. Earlier, Jain et al. (2012) showed that positive and negative affectivity (as facets of SWB) affected service-oriented OCB, which is a different type of OCBI that measure employees' citizenship behaviours towards their customers (OCBC) in the service industry (Bettencourt et al., 2001; Chang & Chang, 2010).

Hence, the following research gap is identified.

Research gap: *There are limited studies that have linked the influence of PWB to dimensional OCBs towards clients, teammates, and the organization.*

Hence, the theoretical underpinnings, the empirical studies (such as Avey et al., 2011; Kurt & Demirbolat, 2019; Kim et al., 2018; Sharma & Sharma, 2019; Kanste, 2011; Brunetto et al., 2012; Roche & Haar, 2013; and Simbula & Guglielmi, 2013), and the identified research gap above, lead the researcher to make the following hypotheses about the PWB and OCB dimensions in this study.

H4. Psychological wellbeing (PWB) is positively and significantly related to organizational citizenship towards clients (OCBIc).
H5. Psychological wellbeing (PWB) is positively and significantly related to organizational citizenship towards teammates (OCBIt).
H6. Psychological wellbeing (PWB) is positively and significantly related to organizational citizenship towards the organization (OCBO).

3.3.3 WWB on OCB

The literature review on the antecedents of OCB (Organ et al., 2006; Jha & Jha, 2010; Ocampo et al., 2018), suggests 'job satisfaction' – a proxy of WWB – as the most popular wellbeing correlate of OCB. This may be because an employee's satisfaction with the different aspects of a job, such as pay, influence positive behaviours among employees, such as OCB (Zeinabadi, 2010, 2011). Further, Organ's (1997) theory on OCB emanated from his belief that job satisfaction affects people's willingness to volunteer help to colleagues and work associates.

Similarly, Ryan and Organ (1996), in a meta-analysis, indicated wellbeing at work (WWB), operationalized by job-satisfaction, is positively related to OCB. This finding was later supported in another meta-analysis by Hoffman et al. (2007), who found that job satisfaction, organizational commitment, and organizational justice, influenced OCB, which is distinct from job performance. Later, Zeinabadi & Salehi (2011) conducted a study on 625 teachers and 131 principals of schools on procedural justice, trust, job satisfaction, and organizational commitment in teacher-OCB. A structural equation modelling analysis in Zeinabadi & Salehi's study revealed that procedural justice is related to OCB, through trust; and also, via job satisfaction and organizational commitment respectively. However, in Zeinabadi & Salehi's (2011) study though job satisfaction is positively related to OCB, the relationship is weak.

Contrary to the studies that demonstrate a positive relationship between job satisfaction and OCB (Ryan & Organ, 1996; Hoffman et al., 2007; Zeinabadi & Salehi, 2011), other studies have contradicted this finding. For instance, Kim et al. (2006) conducted a study

on the relationship between organizational commitment, motivation, and job satisfaction, and affirmed that, although there is a positive relationship between commitment, motivation, and OCB, the association between job satisfaction and OCB was not confirmed. Earlier, Wright and Cropanzano (1997) in their study asserted that negative affect and positive affect at work would assess employee performance better than would job satisfaction.

Following on from their previous studies, a cross-sectional research by Wright et al. (2007) engaged 109 managers (of over 5000 employees) in a customer-service industry to provide complete evaluations of job satisfaction and wellbeing as measured by positive affect. The study indicated that when wellbeing (measured by affect at work) is low, there is no detectable relationship between job satisfaction and job performance. Further, when wellbeing (affect) is high, job satisfaction influenced high job performance. The importance of Wright et al.'s study is that it highlights the influence of affectivity as a stronger correlate of performance than job satisfaction.

However, these studies by Wright & Cropanzano (1997, 2007) contradict the findings of Organ & Konovsky (1989), which highlighted job satisfaction as a stronger correlate of OCB, than affect. The literature is therefore inconclusive with respect to the relationship between job satisfaction affect and OCB. Longitudinal studies on larger samples are therefore needed to resolve this issue.

Nevertheless, one thing that is clear from the above studies is that both job satisfaction and affect influence OCB. For instance, a Canadian study on middle managers by Zelenski et al. (2008) measured the influence of positive affect, negative affect, life satisfaction, job satisfaction, and quality of life on performance. Affect measured the

worker's state whilst satisfaction measured the trait of happiness. Zelenski et al. reinstated the happy-productive worker thesis and found that both trait (happy people) and state (people in happy mood) enhanced performance (which is a marker of productivity in workers).

Further, Hosie et al. (2012) examined the influence of both intrinsic job satisfaction and state emotions on manager performance and contextual/citizenship performance. Hosie et al.'s study in 2012, involved sending a questionnaire to 19 Australian organizations, which returned a 26% usable response rate: 200 responses from self-report of managers and 200 ratings of the managers' performance by their superiors (n = 400 usable questionnaires). Superiors' ratings of the managers' performance protected the study from common method bias. Using multiple regression, Hosie et al. (2012) found a positive relationship for both intrinsic job satisfaction and positive affect on contextual performance, another term for OCB (Borman & Motowidlo, 1997; Podsakoff et al., 2000; Ocampo et al., 2018).

Even though the significance of job satisfaction as a WWB construct is very popular, other job-related attitudes, such as organizational commitment, job involvement, and employee engagement, have also established their predictive status as important correlates of job performance. Hoffman et al. (2007) found that job satisfaction, organizational commitment, and organizational justice influenced OCB. Later, Dalal et al. (2012) invited participants by newspaper advertisement to a paper-and-pencil survey, and a univariate analysis on the data from 191 employees indicated that job satisfaction positively related to task performance and citizenship behaviours, over and above organizational commitment and job involvement respectively. In Dalal et al.'s (2012) US-based study on the effect of job attitudes on employee contributions, job satisfaction

accounted for 14% of the explained variance in OCB, trait positive affect explained 12 % of the variance, and trait negative affect explained 8% of the variance. Though the highest variance in OCB in Dalal et al.'s study was explained by job engagement, job satisfaction still retained its status as one of the pre-eminent WWB antecedent of OCB in the literature.

In a study on 30 companies within the Korean national industrial sector, Lee, et al. (2014) obtained data from 1100 employees on job satisfaction, OCB, procedural justice, and transformational leadership. Results from structural equation modelling found that procedural justice and transformational leadership had a positive effect on the employees' OCB, whilst OCB affected job satisfaction. The underlying mechanisms relating the study constructs in Lee et al.'s study was explained by the social exchange theory (Blau, 1964). The study by Lee et al. (2014), however, was limited demographically, as 74% of the employees were male and 77% were working in lower-grade positions. However, Lee et al.'s (2014) study indicated that other individual-level factors, such as procedural justice, and organizational-level factors, such as transformational leadership, influenced OCB, and job satisfaction was an outcome of OCB. The study by Lee et al. 2014) in conjunction with other studies where OCB is the outcome of job satisfaction (e.g. Dalal et al., 2012), suggests a need for future reciprocal studies between SWB at work – which is WWB (operationalized by job satisfaction), and OCB. Nevertheless, these studies (Lee et al., 2014; Dalal et al., 2012), suggest other significant aspects of WWB (e.g. transformational leadership) beyond job satisfaction as antecedents of OCB.

As fresh studies draw attention to the contextual nature of both wellbeing at work (Erdogan et al., 2012) and citizenship behaviours (Karam et al., 2011), there appears ample opportunity for research on how wellbeing variables might be studied as strong

antecedents motivating OCB in specific industries. Though OCB has been studied theoretically and empirically in various fields since the 1980s (Podsakoff et al., 2000), new interest has recently been focused on the antecedents of OCB in the health sector.

However, studies on the wellbeing correlates of OCB have typically focused on the job satisfaction factor of health professionals. For example, job satisfaction of nurses is related to OCB in the health sector (Tsai & Wu, 2010; Salas-Vella et al., 2017). This is because job-satisfied health workers can offer efficient services to patients by doing more than was required of them, which is by engaging in OCB. For example, in a study in Taiwan, Tsai & Wu (2010) found that job satisfaction had a positive correlation with OCB of nurses and a negative correlation with turnover.

Studies that link WWB beyond job satisfaction to OCB are very rare in the literature. One exception is found in Salas-Vallina et al. (2017), who conducted a small study on 167 medical staff in an allergy unit of a hospital in Spain. They found that 'happiness at workplace'(HAW) is related to motivation for learning, better interactions between employees, and OCB. The authors' HAW construct is borrowed from Fisher (2010), who developed the WWB construct as a higher-order construct comprising three dimensions, job satisfaction, job engagement, and affective organizational commitment: These three dimensions covered evaluations of specific work conditions (for example, salary, opportunities), feelings of thrill and passion of the job, and feelings of belongingness towards the organization, respectively. Salas- Vallina et al.'s (2017) study found that the WWB aspects of job satisfaction, job engagement, and affective organizational commitment are positively related to citizenship behaviours. The study (2017) however defined WWB within the confines of employee attitudes and feelings i.e. SWB only.

Research gap: *The influence of WWB measures (that involves both hedonic and eudemonic factors) on dimensional OCB is absent in literature. To this end, this study will address this research gap.*

The above studies (Ryan and Organ 1996; Hoffman et al., 2007; Dalal et al., 2012; Salas-Vallina et al., 2017; Lee et al., 2014; Zeinabadi & Salehi, 2011; Tsai & Wu, 2010; Altuntas et al., 2010; Dilig-Ruiz et al., 2018) indicate that WWB is positively related to OCB. Based on these studies, the following hypotheses are made about the relationship between WWB and OCB towards individuals (OCBI) and the organization (OCBO):

H7. WWB is positively and significantly related to organizational citizenship towards clients (OCBIc).

H8. WWB is positively and significantly related to organizational citizenship towards teammates (OCBIt).

H9. WWB is positively and significantly related to organizational citizenship towards the organization.

These hypotheses (H1 to H9) are developed to seek answers to the first research question (RQ1) below:

RQ1. Is there a relationship between each aspect of the EWB construct and OCB towards clients, teammates, and the organization?

3.3.4 EWB on OCB

In Chapter 2 on theoretical constructs, EWB is proposed as feeling and functioning well both *in life* and *at work*. In this regard, Page and Vella-Brodrick (2009) first proposed a conceptual framework of EWB that incorporated three wellbeing factors SWB, PWB, and WWB. Whilst the SWB variable captured the general positive feelings (relative to negative feelings), and satisfaction in life, PWB represented the functioning well in life. Page and Vella-Brodrick (2009) proposed that WWB be measured by the worker's SWB at work (operationalized by job satisfaction and work-related affect). The EWB framework by Page and Vella-Brodrick (2009), therefore, does not incorporate the eudemonic PWB variable at work, which according to the researcher of this study should be added to the EWB framework.

Researchers have only recently developed WWB constructs that measure the eudemonic PWB at work. In relation to this, Czerw (2019) commented on the need to develop WWB measures that incorporate both hedonic and eudemonic approaches. Earlier, Dagenais-Desmarais & Savoie (2012) developed the WWB measure solely to test the eudemonic PWB at work. On the other hand, in Australia Parker & Hyett (2011) developed a WWB measure that tests both the hedonic SWB at work and the eudemonic PWB at work variables. However, no studies in the past have modified Page & Vella-Brodrick's conceptual framework of EWB to add in the eudemonic PWB at work. Therefore, in this study, EWB is defined as the presence of SWB in life, PWB in life, and WWB (which is SWB at work and PWB at work), which will address the following research gap.

Research gap: *Previous studies have not incorporated variables of both hedonic and eudemonic approaches to wellbeing in life and at work into the EWB framework.*

The proposed framework of EWB in this study is depicted as follows:

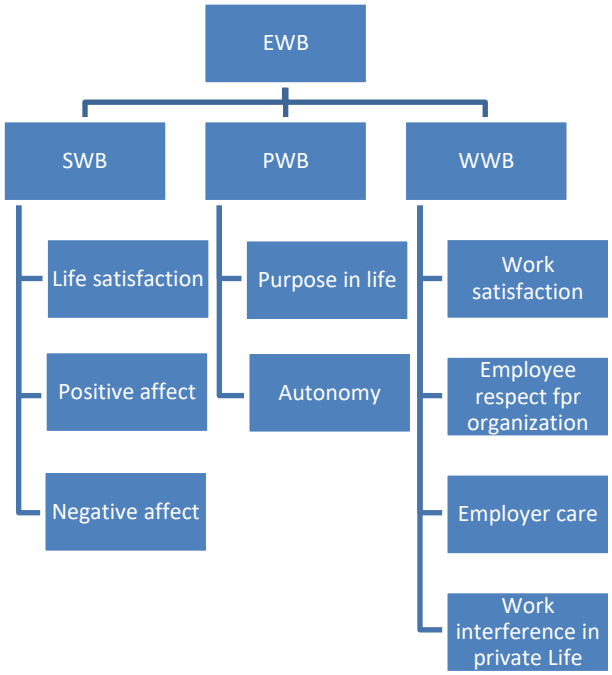


Figure 3.1 Proposed conceptual framework of employee wellbeing

Further, in this study the conceptual framework of EWB is examined in the health sector; that is, on nurses and allied health professionals, which will contribute to another research gap as follows.

Research gap: *Further, no studies have validated the conceptual framework of EWB in the health sector on nurses and allied health professionals*.

Despite the empirical evidence for the OCBI-OCBO framework (e.g. William & Andrews, 1991), and the service-oriented OCB (Bettencourt et al., 2001) – which is OCB toward customers (OCBC), very little research effort has been devoted to these dimensional OCB in the health sector. Further, no research was found that examined the

relative influence of the EWB variables on dimensional on OCBIc, OCBIt, and OCBO of nurses and allied health professionals.

Research gap: *The total and relative influence of EWB variables (SWB, PWB, and WWB) on dimensional OCB towards clients, teammates, and the organization of nurses and allied health professionals has not yet been examined in the literature.*

Most studies on the wellbeing antecedents of OCB are on the hedonic SWB and based on research in the US (e.g. Ryan & Organ, 1996, Podsakoff et al., 2000). Comprehensive wellbeing conceptual frameworks of employees, such as EWB (Page & Vella-Brodrick, 2009) or any modified version of it, have not been tested in the health sector in Australia. Therefore, in this study, the EWB framework will be examined using a sample from the Australian health sector to address this research gap.

Research gap: *The framework of EWB has not been tested on OCB towards clients, teammates, and the organization of nurses and allied health professionals in Australia.*

Whilst no direct empirical studies of the influence of the EWB variables on dimensional OCB were found in the literature review, indirect relationships between these study variables have been implied through the lens of the three theoretical mechanisms of Fredrickson's B&B theory (1998), Hobfoll's COR theory (1989), and Blau's SET (1964), as discussed in Chapter 2 (Section 3.2.4). Reiterating briefly, through the mechanism of B&B, SWB develops psychological resources such as PWB in life and WWB. Further, from the lens of the COR theory, SWB, PWB and WWB are then invested in OCB for personal gains, and from the SET perspectives, in exchange for goodwill at work. Drawing from the research gaps and the theoretical mechanisms stated above, this study examines the relative influence of the EWB construct and its

individual variables (SWB, PWB and WWB) on OCBIc, OCBIt, and OCBO. The proposed hypotheses are, therefore, as follows:

H10. Employee wellbeing (EWB) will significantly influence organizational citizenship towards clients (OCBIc), towards teammates (OCBIt), and towards the organization (OCBO).

H11. SWB will significantly influence organizational citizenship towards clients (OCBIc), towards teammates (OCBIt), and towards the organization (OCBO).

H12. PWB will significantly influence organizational citizenship towards clients (OCBIc), towards teammates (OCBIt), and towards the organization (OCBO).

H13. WWB will significantly influence organizational citizenship towards clients (OCBIc), towards teammates (OCBIt), and towards the organization (OCBO).

These hypotheses (H10 to H13) are developed to answer research questions two to five (RQs 2–5) as reiterated below:

RQ2. Does EWB influence OCB towards clients, teammates, and the organization?

RQ3. Does SWB influence OCB towards clients, teammates, and the organization?

RQ4. Does PWB influence OCB towards clients, teammates, and the organization?

RQ5. Does WWB influence OCB towards clients, teammates, and the organization?

3.4 Chapter summary

This chapter introduced the theoretical frameworks of employee wellbeing variables as antecedents of OCB. First, three theoretical mechanisms were presented; Fredrickson's Broaden and Build (1998); Hobfoll's Conservation of Resources theory (1989); and Blau's Social Exchange theory (1964). These three theories were systematically combined to propose a robust explanation of why wellbeing constructs will determine OCB. After the theoretical mechanisms, direct empirical studies from the literature were explored to present the 'what' wellbeing constructs related to OCB. Consequently, research gaps in the literature were identified which lead to the development of hypotheses for this study. Following this, a theoretical model conceptualising the relational pathways between the EWB variables, and OCBIc, OCBIt, and OCBO is drawn.

CHAPTER 4

CONCEPT MEASUREMENT MODEL

4.1 Introduction

Chapter 3 systematically explored the literature on the relationship between the study-constructs and concluded with the study hypotheses on the constructs of employee wellbeing (EWB) - subjective wellbeing (SWB), psychological wellbeing (PWB), workplace wellbeing (WWB), and organizational citizenship behaviours (OCB) towards clients, (OCBIc), teammates (OCBIt), and the organization (OCBO). Based on the research objectives and the relevant literature, thirteen hypotheses were developed about the relationship between the exogenous latent variables of EWB and the endogenous latent variables of OCBIc, OCBIt, and OCBO.

Defining latent constructs Eboli et al. (2018) note that

> Latent variables are constructs which cannot be directly observed, but they must be defined in terms of underlying observed variables, called indicators. In Structural Equation Modelling, a measurement model defines each latent variable, whereas the structural model represents the relationships between exogenous and endogenous variables (p. 108).

But what kind of latent constructs are these study variables? Are they independent of the nature of their observed measures or indicators? Do the observed indicators define the underlying latent variable, or are the indicators mere manifestations of the latent variable? These issues are examined in this chapter to determine the measurement models for each of the study variables used in this study.

The measurement model of a construct is based on the hypotheses about the relationship between the latent unobserved construct and its observed items. Based on the hypothesized relationship between latent variables and their associated indicators, the respective measurement models are specified. Two types of measurement models are typically specified, reflective and formative. A reflective measurement model shows that the unobserved latent construct exists independently of its observed indicators; any change in the observed indicators does not change the nature or characteristics of the latent construct. On the other hand, a formative model means that the latent construct is formed or caused by the individual dimensions; hence, without the indicators, the construct is non-existent or flawed (Hair et al., 2017).

The observed indicators of the reflective or formative measurements can be explained simply, by analogy with an Indian Curry. The curry can be thought of as either a formative or reflective construct. In the formative model, the construct of the curry is formed by its ingredients and spices: without its ingredients and spices, the curry has no independent entity. The curry is *caused* by the ingredients and the spices in accordance with its description and recipe. However, if some of the ingredients are omitted or changed, it will not be the same curry. On the other hand, the curry can also be described as a reflective construct. For example, the curry will manifest some *effects*, such as salivation, a certain level of satiation, and indeed heartburn. The presence or absence or even the level of variation in any of these possible effects or dimensions does not make the curry any different or non-existent.

However, in organizational studies the difference between formative and reflective measurement models is not as simple, as the curry example. The selection and

justification of a measurement model as reflective or formative are critical to research (Coltman et al., 2008).

Nevertheless, despite the importance of the correct choice of measurement model, a discussion of the type of model used is commonly omitted in the organizational literature. The misspecification of a reflective construct as formative can falsify the structural relationships between latent constructs (increased Type I and Type II errors) and render the study invalid (Jarvis et al., 2003). This chapter addresses that omission and specifies the individual constructs or measurements used in this study. To this end, the chapter is systematically divided into the following three parts.

First, this chapter introduces the reflective and formative types of measurements and delineate their theoretical differences. References from literature are presented to show that, typically, both wellbeing and citizenship behaviour constructs in past studies have been defined as reflective measures.

Second, to determine whether the wellbeing and citizenship latent constructs in this study should be undertaken as reflective measures or not, the theoretical criteria for the differences between measurement models are applied to each of the latent variables of this study (SWB, PWB, WWB, OCBIc, OCBIt, and OCBO). Consequently, each of the latent variables of the study will be specified. Two outer measurement models are formed with the exogenous EWB variables, and the endogenous OCB variables, respectively. The limitations of the measurement model are also noted.

Third, following the discussion of the respective outer measurement models for the wellbeing and citizenship behaviours, the chapter concludes with a diagram (Figure 4.2) showing the inner structural model, which depicts the model pathways between each of

the exogenous wellbeing variables (SWB, PWB, WWB), and each of the endogenous dimensional citizenship behaviours (OCBIc, OCBIt, and OCBO) variables. The positioning of the exogenous and endogenous variables in the inner structural model and the model pathways between them are based on the hypotheses proposed in Chapter 3.

4.2 Reflective measurement model

Jarvis et al. (2003) describe reflective measurement models (or constructs based on effect indicators) as models in which the covariation among the indicators is caused by, and, therefore, reflects variation in the underlying latent factor. Put simply, in reflective models the (variations in) observed item scores are believed to be caused by (variations in) the underlying latent construct. To endorse this line of thought MacKenzie et al. (2005) add that,

> Thus, meaning flows from the latent construct to the measures in the sense that each measure is viewed as an imperfect reflection of the underlying latent construct (p. 710).

Further, Eboli et al. (2018) state that reflective measures in path model equations (for example, in Structural Equation Modelling) occur when the latent unobserved variable is caused by the observed measures. Even though the latent construct cannot be measured directly, it exists independent of its observable or effect indicators. An example of a reflective measurement proposed by Eboli et al. (2018) is intelligence. They explained that intelligence determines the responses of a subject to the questionnaire that is designed to assess the variable of intelligence; it is not the other way around. Hence, in reflective measurement models, items/indicators reflect the underlying latent construct.

4.3 Formative measurement model

According to Eboli e al. (2018), 'Formative measurement models (or constructs based on causal or composite indicators) are conceptualized as having precisely the opposite causal directionality' (p. 72) to reflective measurement models. That is, formative constructs are caused by the observed items; they are not effects of the underlying construct itself. The indicators that form the latent construct are unique and are not manifestations of the latent variable. An example of a formative measure (Eboli et al., 2018) is socioeconomic status (SES). SES is characterized by high income, high education level, and a prestigious occupation. In a formative relationship, the 'higher-order' construct, in this case SES, is formed as a combination of its 'lower-order' variables (education, income, and occupation). In this, the direction of causality is from the lower-order variables to the higher-order construct (Jarvis et al., 2003). Hence, meaning comes from the indicators to the latent construct, which is the opposite of reflective measures. If one of the variables in the SES is dropped, then the latent formative construct of SES will cease to exist.

4.3.1 But, why is it important to choose one measurement model?

The correct choice of the measurement model is necessary, because incorrect measurement (mis-specification) can underestimate the content validity of the constructs, can falsify the structural relationships between the latent variables, and, therefore, can lower the usefulness of the theory for both researchers and practitioners (Coltman et al., 2008). Further, support for a specific measurement model is found in Peterson et al. (2017), where the authors write that 'The selection of the appropriate measurement model is foundational to testing a measure's validity' (p.17).

Fleuren et al. (2018) described five major implications and consequences of the theoretical distinction between reflective and formative measurement models:

First, awareness of the nature of the measurement model is crucial. That is, a reflective measurement model is only appropriate when the construct under investigation corresponds to a real latent (unobserved) property or process. On the other hand, a formative measurement model implies that the construct under investigation is an operationalization of a multidimensional variable (e.g. Bollen & Diamantropoulos, 2017) or a summary of various conceptually distinct variables.

Second, misspecification of a reflective measurement model as formative (or, formative as reflective) can greatly bias estimates of structural relationships among variables and produce theoretically meaningless indices of model fit. This kind of misspecification of measurement models (that is, mistaking reflective measure for formative measure) is, however, common in the literature. According to MacKenzie et al. (2005),

> Although the extent to which this is true is difficult to evaluate without access to the actual data from studies in which the measurement models are mis-specified, in our opinion, this could be a fairly serious problem for the field (p. 729).

For example, the results of a simulation study conducted by MacKenzie et al. (2005)

> indicated that measurement model misspecification can inflate unstandardized structural parameter estimates by as much as 400% or deflate them by as much as 80% and lead to Type I or Type II errors of inference, depending on whether the exogenous or the endogenous latent construct is mis-specified (p. 710).

Third, reflective models assume unidimensionality, and construct validity can be assessed through factor analysis. However, validation of 'formative constructs are restricted to complicated ways of assessing content (nomological), criterion (concurrent or predictive), and structural validity' (p. 73).

Fourth, the formative measurement model lacks scaling. Hence, it is impossible to estimate such a model. Instead, formative models depend on the inclusion of reflective indicators or outcomes to achieve model identification.

Fifth, interventions that aim at improving the scores on a formative construct can target individual indicators of the construct, as the indicators themselves cause the formative construct.

Fleuren et al. (2018) conclude that,

> Considering these important implications, the distinction between reflective and formative measurement is not merely conceptual nit-picking. Instead, a good match between definition and measurement model specification is indispensable (p.73).

Therefore, based on the implications and consequences of differentiation between reflective and formative constructs, a model that specifies its measurements must be made (Hair et al., 2017).

4.3.2 Measurement models in organizational science

Most variables in organizational science are latent constructs that are defined as reflective measurement models (MacKenzie et al., 2005). The latent constructs in these studies are

measured with scales and are grounded in classical test theory (Ellwart et al., 2011). In the classical test theory, each observable item is viewed as a reflection of the underlying latent construct (e.g. Bollen & Lennox, 1991, in Ellwart et al., 2011).

The latent construct explains the common variation in the indicators. Therefore, it is *reflective*, and the meaning flows from the latent construct to the indicators (MacKenzie et al., 2005). From this measurement perspective, almost all scales in organizational research are reflective, with observable items as reflections of the latent variable (that the scale intends to measure). For example, the construct of SWB is measured with items that represent different variables of wellbeing (positive affect, negative affect) and life satisfaction (Su et al., 2014). Changing, adding, or deleting any of the items measuring these variables does not change an individual's overall feeling and satisfaction in life.

One reason for the choice of reflective measurement models over formative models is rooted in the clear standards for assessing validity and modelling (Jarvis et al., 2003). However, this leads to misspecification, in which latent constructs are wrongly assumed as reflective. For example, Jarvis et al. (2003) reviewed marketing and consumer research and found that out of 365 related constructs, 336 are modelled as reflective. The authors, however, indicated that the constructs should instead be modelled as formative.

However, based on the empirical studies described in Chapter 2 and Chapter 3, the literature indicates that the study variables should be assumed to be reflective. One way to identify whether the OCB and EWB constructs have been modelled reflectively in past literature is to check the analytical tools used. To this end, Patterson et al. (2017) noted that reflective measurement models use the analytical research tools of exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and reliability coefficients (for

instance, Cronbach's alpha). Hence, one way to identify the measurement models of the study variables would be to look for these analytical tools in OCB and EWB literature, as discussed in the following sections.

4.3.2.1 Measurement models in OCB studies

The majority of the OCB research (e.g. Organ, 1988; Williams & Anderson, 1991; Podsakoff et al., 2000, 2009; Chandrakumara et al., 2010), typically uses the analytical research tools of exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and reliability coefficients (for example, alpha). For example, most of the authors reviewed in Chapters 2 and 3 measured OCB using a standardized scale (e.g. Williams & Anderson, 1991; Allen & Lee, 2002). Consequently, in their results, they reported on the internal consistency reliability, convergent validity, and factor analysis for their respective data (e.g. Podsakoff et al., 2009). These researchers assumed reflective modelling for OCB. However, no explicit acknowledgment of the issue of measurement models is found in their respective journal articles.

Failure to consider the measurement issue in research may lead to some measures remaining underdeveloped. Similarly, in relation to the dependent variable of this study, this failure to consider the measurement issue means that some conclusions drawn from OCB research may be inaccurate. To illustrate this point, in a meta-analysis on the relationship between OCB and outcomes, Podsakoff et al. (2009) recommended additional research on the potential influence of cross-cultural contexts. They commented that it is possible that supervisors in collectivistic cultures weigh OCB more heavily in their performance appraisals than do their colleagues in individualistic cultures. This means that supervisors in the collectivist cultures may need to examine a broader and

culture-specific variable of OCB to make a fair performance appraisal. To assume the same reflective scale of OCB (as one developed in the US, for example, Williams & Anderson, 1991), in a collectivist culture can be problematic.

Despite this logic, OCB research in collectivistic cultures still uses OCB indicators from popular Western research, which assumes a reflective measurement model. For instance, Chandrakumara et al. (2010) in a Sri Lankan study on the cultural values and demographic correlates of OCB, used Smith et al.'s (1983) Citizenship Performance Scale. The authors reported that 'Cronbach's Alpha coefficient for five cultural values dimensions as follows: Uncertainty Avoidance 0.73, Individualism/Collectivism = 0.70, Masculinity/Femininity = 0.61, Power Distance = 0.60, and Future Orientation = 0.69.' (Chandrakumara et al., 2010). Following the demonstrated use of a scaling measurement (Smith et al., 1983) and alpha coefficients, Chandrakumara et al. (2010) implied the use of a reflective measurement model for OCB.

However, contemporary researchers are revising OCB scales that were originally developed in the West and adapting the selected OCB scale to the context of a different country and/or type of industry. For example, in a study on nurses' in Taiwan (Chang et al., 2011), the relationship between job satisfaction and OCB is explored. In that study the Chang et al. revised Organizational Citizenship Behaviours Scale developed by Williams & Anderson (1991), according to the characteristics of the medical profession in Taiwan. Chang et al. (2011) used structural equation modelling, and examined the goodness-of-fit index (over 0.9), adjusted goodness-of-fit index (over 0.8), and the root mean square of standardized residual (less than 0.8). The examination of the goodness of fit to determine whether a theoretical model constructed by researchers provides reasonable explanations from the data is undertaken when the measurement model is

assumed reflective (not formative). Hence, in the study by Chang et al. (2011) OCB is a reflective measure.

4.3.2.2 Measurement models in wellbeing studies

In the literature the distinct wellbeing latent constructs are assumed reflective and are measured by developing respective standardized scales. The developers of respective scales for the related, but distinct, wellbeing constructs such as SWB (e.g. Diener, 1984; Su et al., 2014), PWB (e.g. Ryff, 1989) and WWB (e.g. Parker & Hyett, 2011; Eaton et al., 2018) all assumed a reflective model for their latent (unobserved) wellbeing constructs.

As a specific example, Czerw (2019) developed the Eudemonic Wellbeing in the Workplace Questionnaire, in which exploratory analysis revealed four dimensions (covered by a total of 43 items): 'positive orientation', 'fit and development', 'positive relations with co-workers', and 'contribution to the organization'. The questionnaire is based on the wellbeing theories in Ryff's (1989) model of happiness, and Keyes's (1998) social wellbeing. These studies (Ryff, 1989; Keyes, 1998; Czerw, 2019) used the exploratory analysis, confirmatory analysis, and Cronbach alphas, indicating the respective authors took the wellbeing constructs as reflective measures.

Another example of a popular wellbeing construct is SWB, which is measured by feelings and satisfaction of an individual (Diener, 1984; Diener et al., 2012). SWB is a reality and exists to varying degrees in all human beings. When measured, SWB is not influenced by its indicators. Instead, the overall level of SWB causes change in its effect indicators (positive affect, negative affect, and life satisfaction). Further, in Su et al. (2014) the internal reliability consistency of life satisfaction is 0.83–0.92, of positive emotions is

0.92–0.95, and of negative emotion is 0.93–0.96. These items operationalize and are manifestations of SWB. Items like ‘My life is going well’, ‘In most ways my life is close to ideal’, or ‘I am satisfied with my life’ measure the life satisfaction variable of SWB. Hence, variance in measures (items) of SWB, when tested on a group of individuals (for instance, nurses and allied health professionals), is a reflection of the true score plus error of SWB for each individual.

4.3.2.3 Measurement models in the wellbeing correlate of OCB studies

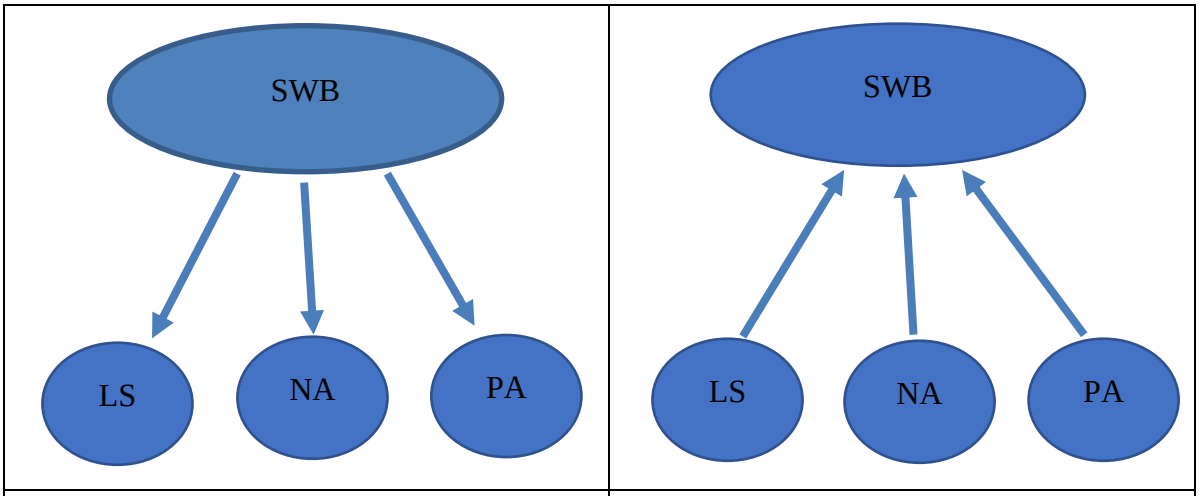
Since the latent constructs of OCB and wellbeing are typically measured reflectively, studies on wellbeing correlates of OCB also assume reflective models in the literature. For instance, Salas-Vallina et al. (2017) studied the influence of an integrated construct of ‘happiness at work’ (HAW) on OCB. The authors used scaled items to measure the latent constructs of HAW and OCB. They used the statistical analytical tool of Structural Equation Modelling to specifically explore HAW, organizational learning capabilities (OLC), and OCB. The use of this analytical tool also indicates that the authors took a reflective approach to each of these respective latent variables.

4.3.3 Trend of forced formative model and its limitations

As discussed in the sections above, constructs like employee wellbeing and organizational citizenship behaviours are usually measured reflectively in organizational studies. However, proponents of formative measures (e.g. Jarvis et al., 2003; MacKenzie, Podsakoff, & Jarvis, 2005; Ellwart et al., 2011; Petter, et al., 2012; Giovani’s et al., 2017; Bollen & Diamantopoulos, 2017) have criticized this approach and warn researchers of grave misspecifications. MacKenzie et al (2005) indicated that

> measurement model misspecifications can inflate unstandardized structural parameter estimates by as much as 400% or deflate them by as much as 80%...depending on whether the exogenous or endogenous latent construct is mis-specified (p. 729).

In organizational studies, especially in management studies (Edward, 2011), there is a growing trend towards formative measurement, in which measures (items) are treated as causes of constructs. According to this newer trend, the psychological functioning (for instance, wellbeing) and behaviours (for instance, OCB) should also be considered as formative measures. Researchers in organizational sciences and psychology are already re-evaluating the constructs that have been used as reflective measures in the past and studying them as formative measures. For example, Ellwart et al. (2011), in their empirical work, redefined as formative and tested the typically reflective measure of work conflict.



Key: SWB = SWB; LS = Life Satisfaction; NA = Negative Affect; PA = Positive Affect

Figure 4.1 The construct of SWB as a reflective and a formative construct

However, according to Edward (2011):

> Although recent work seems to suggest that formative measurement is a viable alternative to reflective measurement, the emerging enthusiasm for formative measurement is based on conceptions of constructs, measures, and causality that are difficult to defend (p. 370).

Edward (2011) indicated that the comparison between reflective and formative measurements (for instance, on dimensionality, internal consistency, identification, measurement error, construct validity, and causality) only leads to the conclusion that the formative measurements are a 'fallacy'.

Further, Bollen & Diamantopoulos (2017), though a proponent of the formative measurements, noted seven common criticisms of formative measurement found in the literature. According to Bollen & Diamantopoulos:

> (a) A construct measured with 'formative' indicators does not exist independently of its indicators; (b) Such indicators are causes rather than measures; (c) They imply multiple dimensions to a construct and this is a liability; (d) They are assumed to be error-free, which is unrealistic; (e) They are inherently subject to interpretational confounding; (f) They fail proportionality constraints; and (g) Their coefficients should be set in advance and not estimated (p. 581).

The researcher has kept these criticisms in mind when choosing an appropriate measurement model for the exogenous wellbeing constructs of SWB, PWB, and WWB; as well as for OCB towards clients (OCBIc), teammates (OCBIt), and organizations (OCBO).

In Section 4.4 the specific theoretical distinctions between reflective and formative measurement models in the literature are considered. The differentiating criteria are noted (Jarvis et al., 2003; Ellwart et al., 2011). Following this, tables are formed on the application of each criterion for measurement models (Jarvis et al., 2003) on the latent variables in this study.

4.4 Reflective versus formative measures—Theoretical distinctions

Since the measurement model of a latent construct will affect the construction, validation, and use of the measurement instrument, the issue of specifying these latent constructs was taken into account in this study. Ellwart et al. (2011) summarized the literature on the distinctions between reflective and formative measures on the basis of four criteria describing the characteristics of classical reflective measurement models and their differences from the formative specifications (e.g. Bollen & Lennox, 1991; Diamantopoulos & Winklhofer, 2001, in Ellwart et al., 2011).

The four differentiating criteria between reflective and formative measurement models presented by Ellwart (2011) are:

(1) In reflective measurement models, the latent construct affects its indicators. On the other hand, in the formative measurement models, the direction of meaning points from the observed measures (items) to the construct. For example, when one feels more positive (the unobserved SWB), it influences the observed items; hence they are called effect items in the literature (Hair et al., 2017).

(2) Typically, the reflective indicators (items) of one construct are replaceable or homogeneous. For example, to measure SWB (Su et al., 2014), ‘I feel positive most of

the time' and 'I feel happy most of the time' are interchangeable. On the other hand, single formative indicators are unique and not interchangeable.

(3) There is covariation among reflective indicators that yields a high degree of internal consistency (expressed for instance, by Cronbach's alpha). Since in the formative measures the indicators are unique composites, not homogeneous items, the internal consistency criteria do not apply to a formative indicator model.

(4) Since reflective indicators are thought to be manifestations of a single latent construct, they should all have the same antecedents and consequences, whereas formative indicators are not expected to share the same antecedents and consequences.

4.4.1 Application of Jarvis et al.'s (2003) checklist to this study

Jarvis et al. (2003) also presented an organized framework to help researchers to justify a measurement model (a reflective or a formative model) based on theoretical considerations. These theoretical considerations are used to ascertain the measurement models for the study variables in this study. Each measurement model criterion (Jarvis et al., 2003) is used for both the exogenous latent employee wellbeing variables (SWB, PWB, and WWB) and the endogenous citizenship behaviour constructs (OCBIc, OCBIt, and OCBO). This is depicted in Table 4.1 (for the endogenous, dependent OCB variables), and Table 4.2 (for the exogenous, independent employee wellbeing variables), respectively.

Table 4.1 Checklist of endogenous latent OCB variables

Application of Jarvis et al.'s (2003) checklist to OCB ('A' indicates a formative and 'B' a reflective measurement model.)

Checklist item (Jarvis et al., 2003)	**Application to OCBIc, OCBIt, & OCBO**
1. Are the indicators (items) (A) defining characteristics, or (B) manifestations of the construct? 'A' indicates a formative and 'B' a reflective measurement model.	In OCBs towards clients (OCBIc), the construct is reflected by its indicator items (Q12 in Appendix B). For instance, the indicator (no. 1), 'Provide emotional/social support to patients' is a manifestation of the latent (unobservable) variable, OCB towards clients. In OCBs towards teammates (OCBIt), the item (no. 7), for instance, 'Cooperate closely with team members to ensure continuity of care', is caused by the OCBIt, not the other way around. In OCBs towards the organization (OCBO), the item (no.15), 'Give advance notice when unable to come to work' reflects or manifests OCBO. The answer to Jarvis et al. (2003) is therefore, OCBIc, OCBIt and OCBO are reflective measures.
2. Would changes in the indicators/items cause changes in the construct, or the other way around? The former indicates formative and the latter reflective.	Items measuring OCBI towards clients, OCBI towards teammates, and OCBO towards the organization, are adapted from standardized measures (e.g. Williams & Andrews, 1991) in which OCBI (towards individuals) and OCBO are second-order constructs, measured by items that manifest these underlying latent constructs, respectively. In this study, the levels of OCBI and OCBO of nurses and allied health professions do not depend on the changes in their associated indicators. The respective OCB indicators are caused by the associated latent constructs, i.e. OCBIc, OCBIt, OCBO. Hence, for instance, the OCBO item 'Give advance notice when unable to come to work' will change if an individual's OCBO changes, but not the other way around. A drop in that item would not affect the extent to which the individual engages in citizenship performance towards his/her organization.
3. Should each indicator capture the same? 'Yes' indicates reflective; 'no, but they share conceptual unity in terms of causing a common construct' indicates causal formative; and 'not at all' indicates composite formative indicators.	Each of the indicators of OCBIc, OCBIt, and OCBO, captures the same conceptual basis of an individual's discretionary effort beyond their task obligations. Further, as shown in Chapter 2, items that measure OCBI and OCBO are highly correlated (LePine et al. 2002); and yet distinct (e.g. Halbesleben and Bowler, 2007)

4. Would dropping, one of the indicators alter the conceptual domain of the construct? 'Yes' indicates formative; 'no' indicates reflective.	The essence of altruism and courtesy in all individuals exists, but some are more altruistic and courteous than others. The items only measure the respective behavioural phenomena and the extent to which an individual is helpful towards his/her clients and teammates, beyond the duty of fulfilling his/her job description. Dropping an item would not change the existence of OCB towards individuals. It would be counter-intuitive that latent OCB toward clients, or teammates, would change if any associated indicators are dropped or even added. The same logic applies to OCBO. Hence, in this study all the dependent latent constructs of the model, i.e. OCBIc, OCBIt, and OCBO, are reflective measures.
5. Should a change in one of the indicators be associated with changes in the other indicators? 'Yes' indicates reflective; 'no' indicates formative.	Since the items are measuring the same underlying latent construct, in this study, OCBIc, OCBIt, and OCBO, the associated items are highly correlated (e.g. Organ, 1988; Williams & Anderson, 1991; Ocampo et al., 2018)
6. Are the indicators expected to have the same antecedents and consequences? 'Yes' indicates reflective; 'no' indicates formative.	OCBI and OCBO are distinct dimensions of OCB that individually are expected to have the same determinants and consequences (Chapter 2). For example, the relative influence of emotional exhaustion on OCBI and OCBO (Halbesleben and Bowler, 2007) was described in Chapter 2. The indicator items of each of the OCB dimensions in this study, i.e. OCBIc, OCBIt, and OCBO (which measure these respective underlying latent constructs) are expected to have the same antecedents as indicated in the research questions (Chapter 1, p.115). The answer is 'yes' to Jarvis's query no. 6. Hence the OCB dimensions are reflective measures in this study.

Table 4.2 Checklist of exogenous latent EWB variables

Checklist item (Jarvis et al., 2003)	**Application to SWB, PWB & WWB**
1. Are the indicators (items) (A) defining characteristics, or (B) manifestations of the construct? 'A' indicates a formative and 'B' a reflective measurement model.	The EWB variables, i.e. SWB, PWB and WWB are each reflected by its associated indicator items. For instance, in SWB, The answer to Jarvis et al. (2003) is therefore, SWB, PWB, and WWB are reflective measures.

2. Would changes in the indicators/items cause changes in the construct, or the other way around? The former indicates formative and the latter reflective.	Items measuring SWB, PWB, and WWB, are adapted from standardized measures (e.g. Su et al., 2014; Ryff, 1989, Parker & Hyett, 2011) in which, SWB, PWB, and WWB are second-order constructs, measured by items that manifest these underlying latent constructs, respectively. In this study, the levels of SWB, PWB, and WWB of nurses and allied health professions do not depend on the changes in their associated indicators. For example, SWB is made by of 3 life satisfaction indicators, 3 positive affect indicators and 3 negative affect indicators. Hence, if the item Q15, no. 4 (Appendix B) 'I feel positive all 'the time' is deleted or changed, it will not influence SWB, as a drop in that item would not affect the extent to which the individual feels positive or satisfied in life.
3. Should each indicator capture the same? 'Yes' indicates reflective; 'no, but they share conceptual unity in terms of causing a common construct' indicates causal formative; and 'not at all' indicates composite formative indicators.	Each of the indicators of SWB shares the same conceptual basis. Hence, indicators that measure SWB share the same theme. For example, items that measure life satisfaction, positive and negative affect are highly correlated (Su et al. 2014). Similarly, in PWB, each of its dimensions, 'autonomy and 'purpose in life' measure an individual's eudemonic functioning; these dimensions and therefore its associated indicators are reflections of the underlying construct of PWB (Ryff, 1989). WWB (Parker & Hyett, 2011) also measure the extent to which an employee feels and functions well at work; the four dimensions in WWB and their associated indicators capture this same underlying wellbeing at work construct.
4. Would dropping, one of the indicators alter the conceptual domain of the construct? 'Yes' indicates formative; 'no' indicates reflective.	The essence of each of the employee wellbeing variables, i.e., SWB, PWB, and WWB exists in all employees, however, some are more positive and functional in life and at work than others. The items only measure the respective hedonic and eudemonic behavioural aspects of its associated underlying constructs. Therefore, dropping an item would not change the existence of SWB, or PWB, or WWB. It would be counter-intuitive, that latent SWB would change if any associated indicators are dropped or even added. The same logic applies to PWB, and WWB. Hence, in this study all the independent latent constructs, i.e. SWB, PWB, and WWB, are reflective measures.
5. Should a change in one of the indicators be associated with changes in the other indicators? 'Yes' indicates reflective; 'no' indicates formative.	The items measuring the same underlying latent construct, in this study, the associated items of each of the SWB, PWB, and WWB variables are homogeneous, and therefore, highly correlated respectively. Further, in the literature, SWB, PWB, and WWB are also correlated (Chapter 2).
6. Are the indicators expected to have the same antecedents and consequences? 'Yes' indicates reflective; 'no' indicates formative.	SWB, PWB, and WWB, are distinct dimensions of EWB that individually have the same determinants and consequences. These have been discussed in Chapter 2. For example, job satisfaction – influences SWB (Erdogan et al., 2012); PWB (Hernandez-Varas et al. 2019) and WWB (Page & Vella-Brodrick, 2009). The answer to Jarvis et al. (2003) is 'yes', hence, each of these EWB dimensions are reflective measures in this study.

Therefore, applying Jarvis et al.'s (2003) measurement model criteria, all the exogenous latent employee wellbeing variables (SWB, PWB, and WWB) are justified reflective constructs. Since the endogenous OCB constructs are also specified as reflective, a concept measurement model is delineated as shown in Figure 4.2.

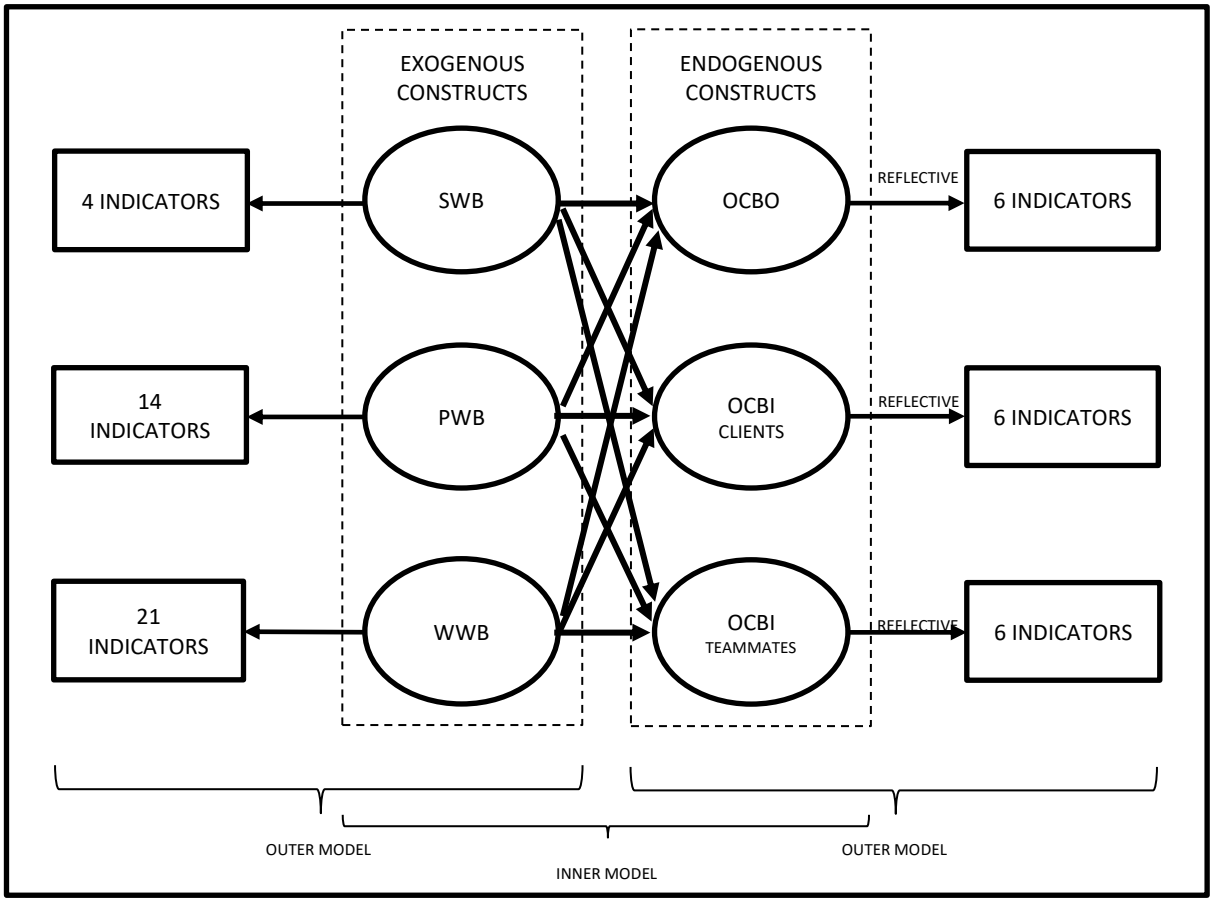


Figure 4.2 Concept Measurement Model

Key: SWB = Subjective wellbeing; PWB = Psychological Wellbeing; WWB = Workplace wellbeing; OCBI CLIENTS = OCBIc = Organizational citizenship behaviours towards clients; OCBI TEAMMATES = OCBIt = Organizational citizenship behaviours towards teammates; and OCBO = Organizational citizenship towards organization. The direction of arrows proceeds from the respective exogenous and endogenous constructs to their associated items, and hence, the constructs within each outer measurement models are reflective. The exogenous constructs (SWB, PWB, and WWB) and the endogenous constructs (OCBI CLIENTS, OCBI TEAMMATES, and OCBO) constitute the inner model; and the arrows indicate the expected linear interrelationships between the constructs in the multi-dimensional model.

However, as suggested in the literature (e.g. Ellwart et al., 2011), the reflective constructs of this study will have some limitations. These limitations are described below.

4.4.2 Limitations of reflective measures

Ellwart et al. (2011) discussed three main limitations of reflective measurement models. First, reflective measurement models assume indicators measure the unidimensional underlying latent construct. This yields an aggregate score on the latent construct but fails to provide any information on the subtypes or various variables of the underlying latent construct. This means information is lost on the subtypes of the reflective construct. For example, even though SWB is measured by its subtypes, namely life satisfaction, negative emotions, and positive emotions (Su et al., 2014), the reflective SWB will only yield one aggregate score in any structural path modelling. If one were to test the influence of SWB on OCB, the statistical analysis in reflective modelling, would tell whether there is a relationship or influence of SWB on OCB, but not the relative influence or influence of its subtypes on OCB. This means important information may be lost for researchers and practitioners alike.

The second limitation is the requirement of a large number of subscales to capture the different facets of second-order constructs (Tetrick & Buffardi, 2006 in Ellwart, 2011). The demand for multiple scales can make the reflective measure a lengthy one, which can affect the participation of potential respondents. The third limitation is the embedded ambiguity of reflective constructs (Ellwart et al., 2011); these reflective constructs often do not distinguish between their respective antecedents and consequences. For example, positive emotions can affect OCB (George & Brief, 1990; Keyes & Annas, 2009); again, OCB can affect positive emotion (Glomb et al., 2011).

Whilst doing good can affect feeling good (Glomb et al., 2011), feeling good can also influence doing good (George & Brief, 1990; Keyes & Annas, 2009). In other words, if a worker feels positive, he or she may volunteer more helpful prosocial behaviours; on the other hand, if the person does something voluntarily, he or she is likely to feel good from the positive deed. Hence, there are no specific antecedents and consequences for latent underlying variables in organizational studies. Depending on whether the reflective construct is positioned exogenously or endogenously, statistical analysis will yield different results. This is because the predictor variable can become the criterion variable, and vice versa, and can confound actual relationships and the validity of the model.

In this study, despite the limitations, reflective measurement models are justified for both the exogenous wellbeing constructs, and the endogenous OCB constructs.

4.5 Chapter summary

This chapter described and justified the construct measurement model of the latent exogenous wellbeing constructs and the endogenous OCB constructs as reflective measurement models. Each of the associated items measuring the employee wellbeing variables, i.e. the subjective wellbeing (SWB), psychological wellbeing (PWB), and workplace wellbeing (WWB) is conceptualized as a reflection of its construct. Similarly, the items that measure the OCB dimensions i.e. the OCB—towards clients, and OCB—towards teammates, and OCBO—are also reflections of their associated underlying latent construct, respectively. Other criteria to differentiate the measurement models are used to eliminate the choice of an alternative formative measurement model for these study variables.

Following this, an inner structural model for the reflective exogenous employee wellbeing and reflective endogenous citizenship behaviour constructs was drawn, based on the hypotheses developed in the Chapter 3. The inner structural model depicted a picture of assumed (hypothesized) relationships between the latent wellbeing constructs and the citizenship behaviours towards clients, teammates, and the organization.

Chapter 5 describes the methodology of the study. This chapter will describe how the study was scientifically and ethically conducted. Specifically, the design of the study is discussed. The selection of the sample, sampling, measures, method of data collection, and specific statistical tools for analysis are systematically set out.

CHAPTER 5

METHODOLOGY

5.1 Introduction

Chapter 4 described a concept measurement model for the study variables in which the exogenous (independent) employee wellbeing (EWB) variables, i.e. subjective wellbeing (SWB), psychological wellbeing (PWB), and workplace wellbeing (WWB), and the endogenous (dependent) organizational citizenship behaviour (OCB) variables were justified as reflective measures. This chapter explains how the study was conducted. More specifically, the chapter outlines the methodology of the research design and describes the sampling design, measurement scales, the procedure, and the statistical method selected for this study. The chapter ends by outlining the ethical considerations undertaken in the study.

5.2 Research design

This study uses a survey in a cross-sectional design to explore the relationship and influence of EWB variables on OCB towards clients (OCBIc), teammates (OCBIt), and the organization (OCBO). Although, the inherent limitation of cross-sectional design is that it is carried out at one point in time and does not indicate the sequence of events, the design was deemed appropriate in this case as the sequence of events was not relevant to the scope of the study. The research questions are exploratory, and this supports a one-point evaluation of the research variables and their relationships. The cross-sectional design in this study allowed for the many WB independent factors and OCB outcomes to be assessed simultaneously which is an advantage of cross-sectional design.

Moreover, the cross-sectional design of the study allows for voluntary, self-selected participants. Further, the cross-sectional design is appropriate for this study, as it is not the intent of this study to generalize findings to the greater population. However, even though the design of the research itself is relatively simple, finding Australian nurses and allied health professionals who were willing to participate, was expected to be a challenge. This was partly due to the time constrains experienced in this profession.

5.3 Sampling

The research used convenience sampling. This method was chosen for two main reasons. First, access to nursing and allied health professionals working in hospitals and other health settings is difficult both for privacy reasons and lack of time for participants to engage in lengthy research. Second, studies such as these are time-restricted and need to be completed within the university's research timelines. Whilst the second reason does not exclude longitudinal designs in such endeavours, it was more convenient for the researcher to use this sampling technique as it enabled her to approach the CEOs and ethics committees of the participating hospitals where she had work connections.

The limitation of convenience sampling is that the sample may not be a true representation of the population (as in stratified sampling). Hence, the use of convenience sampling meant that caution had to be taken in generalizing the descriptive information or making inferences about these employees. However, in support of convenience sampling, Herek et al. (1991) remark that,

> If the sample is not a probability sample, does it include sufficient diversity to permit adequate assessment of relevant variables? When convenience samples must be used, researchers should fully describe their recruitment procedures and

> sample characteristics, discuss possible sampling biases, and identify the particular groups (e.g., ethnic, age, social class) that are likely to be over or underrepresented (p. 959).

Further, Herek et al. (1991) suggest that the disadvantages of using convenience sampling may be reduced to a certain degree by using more than one recruitment method and by ensuring that various communities are targeted when recruitment takes place.

These recommendations by Herek et al. have been followed in the present study. As such, sample characteristics, recruitment procedure, and biases were addressed; participants belonged to different professional communities, for instance, psychologists, social workers; and the study also employed two methods of recruitment, as described in subsequent sections. First, the recruitment methods are described in Section 5.4.

5.4 Recruitment methods

Two recruitment methods were used to deliver the survey to prospective participants. This was done based on the recommendations of Herek et al. (1991) to get as much data as possible within the limited timeframe for the research. The two recruitment methods employed were an online internet based 'SurveyMonkey' and manual distribution of the survey.

Online recruitment

The SurveyMonkey engine was used to load the survey onto a created link that was made available to potential participants, along with the Participant's Information Sheet (Appendix A). Emails with the link were sent by managers of participating hospitals and the link was also made available via social media. One major incentive in collecting

survey data from the Web is that internet methods provide an efficient and relatively inexpensive way to access a reasonable sample size that would be beyond the reach of paper-and-pencil methods. Further, as discussed above, a sample targeting nurses and allied health professionals raised problems of accessibility (mainly for reasons of privacy), and thus restricts data collection. In addition, an adequate sample size is required for partial least square structural equation modelling, so access to a reasonably sized population of nurses and allied health in Australia was required. Hence, the internet survey using SurveyMonkey was deemed appropriate for mitigating the above concerns.

Web-designed surveys present some concerns with the generalizability of the target-group characteristics, maintenance of anonymity, and the issue of repeat users. With respect to generalizability, the sample target group was restricted to nurses and allied health professionals in Australia only. Anonymity was ensured in the Participant's Information Sheet (Appendix A); and surveys asked only for the participant's demographic details, not personal details (such as name or address). Further, to avoid the multiple counting data from repeated use of the survey by a participant, the computer identification number of participants was simultaneously checked on the SurveyMonkey by both the researcher and one of the supervisors. Most importantly to ensure there was no repeat usage, the participants were cautioned in the Participant's Information Sheet (Appendix A).

Since many of the health professionals in the participating organizations use a shared computer in the staff room, another strategy to eliminate repeated responses was to match consecutive responses from the same IP address on several key demographic characteristics (for example, gender, age, ethnicity). In this study, if such a match was detected, only the first response was retained.

Johnson (2001) offers another solution for detecting repeat responders, in which he suggests comparing the entire set of item responses in consecutive entries to identify duplicate or near-duplicate entries. In regard managing the repeat users of online surveys, Gosling et al. (2004) observed that:

> Moreover, internet findings generalize across presentation formats, and are not adversely affected by repeat responders, and are consistent with findings from traditional methods (p. 93).

Manual recruitment:

Considering the reported level of job stress in the literature and the limited computer time available to health professionals for research participation, it was deemed prudent to include manual recruitment to increase the sample.

5.5 Procedure

As mentioned, under recruitment methods, the survey was either emailed to potential nurses and allied health professionals or a paper copy was given to them by their work managers. An invitation was also posted on the researcher's LinkedIn account with the Participant's Information Sheet, and an advertisement was placed on Facebook for two weeks, specifically targeted to nurses and allied health professionals in Australia. Irrespective of the recruitment methods, the survey package included the Participant Information Sheet, which conformed to the requirements of the University of Wollongong Human Research Ethics Committee. It contained the research details and assured participants of confidentiality and anonymity. The manual surveys also included a self-addressed return-paid envelope.

Invitations for voluntary participation were sent to two private hospital chains in Australia. Four hospitals from one chain and three hospitals from the other chain participated in this study. For one of the chains, ethics approval was sought and granted, and for the other chain, verbal permission was given by the CEO.

After data collection, the information from SurveyMonkey was imported to a statistical analysis tool (SPSS). The data received by mail was entered into an Excel spreadsheet, and then added to the SurveyMonkey data in SPSS. The total data set was subsequently imported into the computer program SmartPLS to explore the relationships and influence of EWB variables on OCB.

5.6 Measures

Items are used from standardized measures of the latent study variables, based on both content validity and internal consistency reliability. The specific standardized measures to evaluate the study variables are detailed in the next sections.

5.6.1 Measuring subjective wellbeing (SWB)

In this study, SWB was measured by nine items adapted from Su et al.'s (2014) comprehensive inventory on thriving, in which the subscales of life satisfaction, positive emotion, and negative emotion measured SWB. Each subscale was measured by three items. The internal consistency of the three items measuring each subscale were: life satisfaction, between 0.83 and 0.92; positive emotions, between 0.92 and 0.95; and negative emotions, between 0.93 and 0.96. All these nine items had high-reliability alpha coefficients and were thus adopted from Su et al. (2014) to measure SWB in this study.

5.6.2 Measuring psychological wellbeing (PWB)

In this study, psychological wellbeing (PWB) is represented by two dimensions, autonomy, and purpose in life (Ryff, 1989). Two examples of items measuring purpose in life are ‘I live one day at a time and don't think of the future’ and ‘Some people wander aimlessly through life, but I am not one of them’. Two examples of Ryff’s (1989) autonomy subscale are ‘I am not afraid to voice opinions, even when they are in opposition to the opinions of most people’ or ‘I tend to be influenced by people with strong opinions’. Morozink et al. (2010) reported the internal consistency of Ryff’s PWB scale to range from 0.69 to 0.85.

Moreover, in Crouch et al. (2017), the meta-analysis (on 264 studies) of the average reliability coefficients of both the composite and the subscales of Ryff’s PWB scale indicates that the average alpha coefficient for the composite PWB scale is 0.858, with mean alpha coefficients ranging from 0.722 for the autonomy subscale to 0.801 for the self-acceptance subscale. Further, the average composite reliability of the seven-item autonomy dimension of PWB is 0.702; and when, specifically tested on a six-point Likert scale, it is 0.721. Similarly, the average alpha of the seven-item purpose in life dimension of PWB is 0.744; and when measured on a six-point Likert scale, it is 0.751 (Crouch et al., 2017).

Following research on the validity of Ryff’s PWB scale (Ryff, 1989; Keyes et al. 2002; Spencer & Hauser, 006; Abbots et al. 2006; Morozink et al. 2010; Crouch et al. 2017), seven items for the autonomy and purpose in life dimensions of PWB were selected for each in this study. The PWB items were measured on a six-point Likert scale to ensure adequate reliability. Except for the item Q13, no. 2, ‘I have a sense of direction and

purpose in life' (Ryff, 1989), which was chosen for content validity, all other items for both the PWB dimensions are specifically chosen from either of the validation studies of the seven-item scale of Ryff's PWB, by Spencer & Hauser (2006) or, Abbots et al. (2006).

5.6.3 Measuring workplace wellbeing (WWB)

The WWB measure, known as the WWB questionnaire (WWQ), was developed by Parker & Hyett (2011) and reveals that, Work Satisfaction accounts for 18.8%, Organizational Respect for the Employee for 13.5%, Employer Care for 10.9%, and Intrusion of Work into Private Life for 9.3% of variances in WWB. In this measure of WWB there are ten items for work satisfaction with factor loadings ranging from 0.52 to 0.83. Each of the other three factors has seven items, and the factor loadings are as follows: Organization Respect for the Employee, the factor loadings are between 0.56 to 0.79; Employee Care, 0.48 to 0.83; and for Intrusion of work into private life, between 0.54 to 0.77. Five items with the highest factor loadings were selected from each of the three WWQ factors; however, for content validity, six items were selected for the employer care factor. In this study, to keep the survey short and for adequate content validity, only 21 items out of the total 31 items in the original scale were adopted to measure WWB. This was also done to minimize costs and to reduce the burden on the participating nurses and allied health professionals.

5.6.4 Measuring OCBI (towards teammates), and OCBO

Items to measure OCB of nurses and allied health professionals are adopted from the Organizational Citizenship Behaviours Scale developed by Williams and Anderson (1991). In Williams & Anderson, (1991, p. 610), the alpha coefficients for the seven items

measuring OCB towards individuals (OCBI) and the alpha coefficients for the seven items measuring OCB towards the organization (OCBO) were 0.88, and 0.75 respectively). In this study, the six OCBI items to measure organizational citizenship towards teammates (OCBIt), and the six OCBO items to measure OCB towards the organization are borrowed directly from Williams and Anderson (1991; p. 606). These OCB items were examined in the context of the frequency of these behaviours towards teammates and the organization in which the health professionals needed to work cooperatively, often in unique and difficult situations. An example of an item measuring OCBI towards teammates taken from Williams & Anderson is the item Q12, no. 11, in the survey (Appendix B):'Help others who have heavy workload' (alpha = 0.73); and an example of an OCBO item adopted directly from William & Anderson (1991) is the item Q12, no. 17, 'Take undeserved break' (alpha = 0 .57).

However, for measuring OCB towards clients, items are adapted from Irvin (1995) as discussed below.

5.6.4.1 Measuring OCB towards clients

Owing to the dearth of specific standardized measures of OCB toward clients/patients in the literature, the OCB towards clients (coded OCBIc in this study) was adapted from a 1995 study by Irvine who developed a measure of OCB in two hospital setting. Exploratory analysis of their study revealed two factors, that were labelled 'OCB directed towards individuals within the organization' and 'organizationally directed OCB' that accounted for 30% variance in OCB. In this study six items to measure OCBIc were adapted from Irvine's first factor, namely 'OCB directed towards individuals within the organization' that measured 39 hospital employees on OCB in assisting patients, family

members, visitors, and other employees within the organization. The Cronbach alpha of the items in this scale was 0.88 (Irwin, 1995, p. 155).

The following Table 5.1 shows the items adopted from Irvine's (1995) scale on Individually directed OCB:

Table 5.1 Items to measure OCBI towards clients adapted from Irvine, 1995

Source: Individually directed OCB (Cronbach Alpha for Scale 0.88 (Irvine et al., 1995, p. 155)	**Items adapted to measure nurses and allied health OCBI towards patients/clients (Appendix B, Q12, no. 1-6)**
1. Provide emotional / social support to a patient even though it is not in my job description	1. Provide emotional/social support to patients
2. Take extra time to respond to a patient's needs	2. Focus on the needs of patients and sincerely attempt to meet all needs of patients
3. Go out of the way to help another employee or patient	3. Take extra time to respond to patient's needs
4. Stay late to help a patient or a patient's family	4. Stay late to help a patient or a patient's family
5. Provide assistance to a patient even though it is not part of my job	5. Provide assistance to a patient even though it is not part of job description
6. Constructively respond to a patient's complaint about the hospital so that the patient feels that he / she wants to return to the hospital	6. Be reluctant to constructively respond to a patient's complaints about the hospital

Note: Irvine's item (in Appendix B) 'Constructively respond…..return to the hospital' has been changed into a negative statement and will be reverse scored. Scale items are reversed to check respondents were reading all items carefully, not rote responding, and to therefore improve the scale validity (Jozsa & Morgan, 2017).

As shown in the above section on ‘Measures’ the items are chosen for each study variable from associated standardized measures. Table 5.2 summarizes the all measures used in this study.

Table 5.2 Dimension of variables and sources of measurement

Variable Dimensions	Items	Source	Questionnaire Items (Appendix B)
OCB—clients	6	Irvine, 1995	Q12, Nos. 1–6
OCBI—teammates	6	Williams & Anderson, 1991	Q12, Nos. 7–12
OCBO—Organization	6	Williams & Anderson, 1991	Q12, Nos. 13–18
WWB—Work Satisfaction	5	Parker & Hyett, 2011	Q9, Nos. 1–5
WWB—Organizational respect towards employee	5	Parker & Hyett, 2011	Q10, Nos. 1–5
WWB—Employer care	6	Parker & Hyett, 2011	Q10, Nos. 6–11
WWB—Work interference in private life	5	Parker & Hyett, 2011	Q11, Nos. 1–5
PWB—Purpose	7	Ryff, 1989; Abbots et al., 2006; Spencer & Hauser, 2006.	Q13, Nos. 1–7
PWB—Autonomy	7	Ryff, 1989; Abbots et al., 2006; Spencer & Hauser, 2006.	Q14, Nos.1–7
SWB	9	Su, Tay & Diener, 2014	Q15, Nos. 1–9

5.7 Statistical analysis: Partial least square structural equation modelling

Partial least square structural equation modelling (PLS-SEM) is chosen for the statistical analysis, as this study is not designed to test any associated theory. In fact, to the knowledge of the researcher, there is no such established theory in the extant OCB

literature that has examined the wellbeing variables in life and at work of health professionals on their OCB towards individuals and the organization. Since, this study is designed for the purpose of theory development, PLS-SEM is an appropriate statistical tool. It is known to be applicable to exploratory studies, especially when the objective is to explore the predictive value of exogenous latent variables on the endogenous latent variables (Hair et al., 2017). In this study, this statistical method was chosen to examine the distinct and relative capacity of EWB variables to affect OCB towards clients, teammates, and the organization.

PLS-SEM was also chosen for the data analysis as the study is cross-sectional, and because of the particular-assumptions made on the convenient sample. The assumptions about the data in this study are as follows:

1. The data were not assumed to be normally distributed.
2. The data collected from the sample would be skewed owing to the higher proportion of females in the Australian nursing and allied health population (Australian Work Task Force Data, 2017). Wong (2011) advocates PLS-SEM when the data distribution is skewed.
3. A relatively small sample size is adequate for the exploratory study. The influenced sample size required for this study, based on number of arrows pointing at a latent variable in the model in PLS-SEM, is 90 (Marcoulides & Saunders, 2006).

Thus, the above assumptions on the nature of the data in this study indicate the suitability for PLS-SEM. However, the following strengths and weaknesses of PLS-SEM (e.g. as delineated by Kwong & Wong, 2013) are noted by the researcher.

Table 5.3 Strengths and weaknesses of PLS-SEM

Strengths of PLS-SEM	Weaknesses of PLS-SEM
Sample size is small.	High-valued structural path coefficients when the sample is small.
Application has little available theory.	Problem of multicollinearity if not handled well.
Predictive accuracy is paramount.	Since arrows are always single headed, it cannot model undirected correlation.
Correct model specification not ensured.	A potential lack of complete consistency in scores on latent variables may result in biased variable estimation, factor loadings, and path coefficients.
	It may create large mean square errors in the estimation of path coefficient loading.

For PLS-SEM the software used in this study was SmartPLS, which is 'easy to use, freely available to the research community and maintains an active online discussion (http://www.smartpls.de) for problem shooting' (Kwong & Wong, 2013, p. 4).

5.7.1 Determination of sampling size in PLS

In this section, an adequate sample size in PLS is determined. As a rule of thumb in PLS-SEM, adequate sample size for a study can be calculated on the number of arrows pointing from the independent latent variables to the dependent latent variables. The same conclusions on adequate sample size in PLS-SEM can also reached by calculating the number of pathways, multiplied by 10, which is referred as the 10% rule to determine a valid sample size in PLS-SEM (Barclay, Higgins & Thompson, 1995, in Hair et al., 2017). The arrows pointing to the three latent variables OCB towards clients, teammates, and the organization from each of the three EWB variables are nine.

Specifically, the nine pathways in the main model are as follows:

1. SWB to organizational citizenship towards the client.

2. SWB to organizational citizenship behaviour towards the teammates.

3. SWB to organizational citizenship towards the organization.

4. PWB to organizational citizenship towards the client.

5. PWB to organizational citizenship behaviour towards teammates.

6. PWB to organizational citizenship towards the organization.

7. WWB to organizational citizenship towards the client.

8. WWB to organizational citizenship behaviour towards the teammates.

9. WWB to organizational citizenship towards the organization.

Therefore, the minimum sample size required for valid exploratory study by the 10% rule = $9 \times 10=90$.

Section 5.8 now discusses the ethical considerations.

5.8 Ethical considerations

The questionnaire and survey data collection methods were approved by the University of Wollongong Human Research Ethics Committee and the conduct of the research followed precisely the steps approved by this committee. The anonymity of participants was maintained in the Web-designed SurveyMonkey portrayal, in which the researcher received only a code and an IPL (Initial Program Loading) number generated by the computer. All data were entered in the researcher's computer and safeguarded by personal password. Data are only shared with the primary supervisors and co-supervisors.

Permission was granted by the hospital chains to allow their staff to participate in this Ph.D. research, partly because of the work connections with the researcher and partly because of a sense of corporate responsibility.

In addition, the topic ‘The influence of EWB on OCBs towards individuals and the organization’ may (one hopes) have appeared interesting to the stakeholders (potential health participants and the respective organizations). Further, there was no direct contact between the researcher and the nurses and allied health staff and there was no coercion placed on the potential participants. All surveys were delivered to the health staff by unit managers or therapy coordinators. Similarly, a sense collegiality may have motivated those participants who responded to the SurveyMonkey link posted on the researcher’s LinkedIn profile. However, there is no way to identify who responded and who did not; therefore, anonymity was fully maintained.

5.9 Chapter summary

This chapter details the methodology of conducting the empirical study on the relationship between the EWB variables and their and influence on dimensional OCB. It was decided that a survey was the most suitable method to explore the relationship between EWB and OCB of nurses and allied health professionals towards their clients, teammates, and the organization. The chapter clarifies the specifics of how the research was conducted, its sampling method, its data sources, and its recruitment methods. Further, the research procedure is outlined, the adequacy of the sample size for PLS-SEM is explained, and the ethical considerations are discussed. The following chapter presents the preliminary data analysis, confirmation, and validation of the measurement models.

CHAPTER 6

PRELIMINARY DATA ANALYSIS CONFIRMATION AND VALIDATION OF MEASURES

6.1 Introductions

Chapter 5 explained the methodology used to collect empirical data on the employee wellbeing variables and organizational citizenship behaviour (OCB) variables. Chapter 5 also outlined the research design, the selection of measures, and the justification of methods, including the statistical analysis used for this research.

This chapter builds on the previous chapter by confirming the reliability and validity of the measures. First, information is provided about data preparation such as missing data, straight-liners, and inconsistent patterns of responses. The next step provides information on data coding into SPSS, including reverse coding of negative items. Following this, the preliminary data are examined for normality, outliers, and the assessment of the respondents' demographic profile. Finally, partial least square structural equation modelling (PLS-SEM) is used to evaluate the outer measurement model and to confirm the validity of the measures.

6.2 Data preparation

This study is informed by two sources of data: the online SurveyMonkey data and the manual data. In total there are 218 responses, 154 respondents from the online survey and 64 from the manual survey. The preliminary analysis includes coding the data into an Excel worksheet and checking manually for missing data.

6.2.1 Missing data

The survey consisted of sequentially arranged sections for participants to respond to the demographic questions and items that measured employee wellbeing and citizenship behaviours. Participants who did not respond to the items or left blanks for a sizable section of the survey were rejected from the data set. This follows Hair et al. (2017, p. 56+), who indicate that if missing data exceed 15% of the survey items those data should be removed. This resulted in fourteen cases being removed from the total online data set of 154. Similarly, the manual surveys included three cases with incomplete responses that were also removed. Thus, a total of seventeen cases were deleted from the Excel data set, leaving 201 valid responses for this study.

6.2.2 Straight liners

Next, the data set was scrutinized for straight liners. A straight-liner response is one where participants tend to make the same answer choice for all items in the survey. Straight-liners, therefore, imply that the respondent lacks an interest in the survey and may not have meaningfully read through the questionnaire. Another indication of straight liners are respondents who respond to the questions in an unreasonably short amount of time. Therefore, the data set was checked for the time it took respondents to answer the questions and for answer choices that could indicate that the respondent simply ticked answers without reading the question. The data set of this study had no straight-liner responses, and no participant in this study took an unusually small amount of time to respond to the survey.

6.2.3 Duplications

If online respondents use the same computer more than once, this could indicate that a respondent completed the survey twice. There are no such ‘duplications’ in the online data. Further, no duplications were found in the manual data, which is not unexpected as only one survey was distributed per staff member by the managers of the participating hospitals. Additionally, the surveys were checked for similar handwriting and similar patterns of responses.

6.2.4 Inconsistent patterns

Inconsistent answer patterns occur when a respondent answers the similar items inconsistently. For example, one of the survey items states that ‘I feel good most of the time’, whilst another item states ‘I feel bad most of the time’. An inconsistent pattern would occur if a respondent agreed with both the items. This was checked in the Excel worksheet for all 201 respondents and no inconsistent patterns were found.

6.2.5 Labels and values of variables in SPSS

The next step of the preliminary analysis included importing the valid data set into SPSS to check for outliers and normality. This included checking all labels and values for correct coding. An error was found in the gender coding, with different codes being used for the online SurveyMonkey data and the manual data. In the online survey ‘Male’ was coded 1 and ‘Female’ was coded 2, but the coding in the manual data was the reverse. The researcher corrected this so that Female was coded 1, and Male was coded 2 across all the data.

6.2.6 Reverse score items

The negatively worded items in each of the associated variables were reverse scored. This was done in SPSS using the transform function. All reverse-score items are transformed and recoded by creating new items. The original negatively stated items were then deleted from the data set. Reverse scoring means, that the numerical scoring in the Likert scale is taken in the opposite direction. So, for example, on the 5-point Likert scale, strongly disagree would attract a score of 5, disagree would be 4, neutral still equals 3, agree becomes 2 and strongly agree = 1. This ensures that the respondent's true positive, neutral or negative response is taken into account in the data analysis.

The reverse score items are noted in the following table.

Table 6.1 Items reversed scored

Variables	Items Reversed (R)	Item in the survey
SWB	SWBneg15iiiR	I feel bad most of the time
	SWBneg15viR	I feel negative most of the time
	SWBneg15ixR	I experience unhappy feelings most of the time
PWB	PWBpur13iR	I live one day at a time and do not think of the future
	PWBpur13iiiR	I do not have a good sense of what it is I am trying to accomplish in life
	PWBpur13ivR	My daily life seems trivial and unimportant to me
	PWBpur13viiR	I sometimes feel as if I've done all there is to do in life
	PWBaut14iiiR	I tend to be influenced…
	PWBaut14vR	It is difficult to voice my opinion…

	PWBaut14viR	I tend to think what other people might think of me
WWB — Intrusion of work into private life. Factor (WLI)	WLI11iR	Does your work eat into your private life?
	WLI11iiR	Do you feel stressed in organising your work time to meet demands?
	WLI11iiiR	Do you feel excessively pressured at work to meet targets?
	WLI11ivR	After work, do you find it hard to wind down?
	WLI11vR	Do you find yourself thinking negatively about work hours?
OCBIc	OCBIc12viR	Be reluctant to constructively respond to patient's complaints
OCBIt	OCBIt12xR	Be reluctant to volunteer to share special knowledge or expertise with other hospital workers
(OCBO)	OCBO12xviiR	Take undeserved work break

6.2.7 Dummy variables

The demographic variables (gender, age, relationship, tenure, job level, and employment status) were used as dummy variables. Each of these demographic variables was dummy coded to represent the reference category. These are then added to the SPSS variable list. Dummy variables are used to create an extra exogenous variable to confirm the influence of a study's exogenous variables on the endogenous variables. In this study, the dummy variable on demographics are used in the PLS-SEM analysis as 'categorical moderator variable' to verify the effect of each employee wellbeing variable on citizenship

behaviours only, and not as a ‘continuous moderator’ to explore ‘the strength of one specific relationship between two latent variables’ (Hair, 2017, p. 246).

6.2.8 Outliers

Outliers are extreme responses made by a participant in the sample, either to one question or all questions (Hair et al., 2017, p. 59). Such extremely different responses may significantly skew the distribution of the data set and hence disturb the analysis. They can be caused by a misunderstanding of the question/s by the respondent, or by incorrect data entry by the researcher to one or more of the items. To identify outliers from SPSS statistics in this study, the Q–Q plots were analysed. First, however, it is necessary to give a brief description of the concept of the probability curve. This is given below.

6.2.8.1 Q–Q plots

In this study, the variables—SWB, PWB, WWB, organizational citizenship behaviour towards clients (OCBIc), towards team (OCBIt), and organization (OCBO)—are measured on a Likert scale. This scale measures non-cumulative data. The responses on the Likert scale are discreet numbers that indicate the extent (not accumulation) of agreement between the items related to the same variable (for example, instances of non-cumulative data are height and weight of the same individual). Hence, the Q–Q plots were chosen as the appropriate probability plot to identify outliers in the non-cumulative data from this study.

The Q–Q-plot test identified only one outlier (Respondent 152) that needed to be considered for removal. Hair et al. (2017) point out that if an explanation for exceptionally high or low values is found, outliers are typically retained because they represent an

element of the population. Accordingly, by checking this outlier, it was found that the Respondent's answers to the factors of WWB, especially to items under 'Organizational respect for employee' (that assessed trusting the organization), and 'Employer care' (that assessed leader support) are lowest (marked 1 = 'Not at all' on the five-point Likert scale). Further, Respondent 152 answered items measuring OCB towards patients and towards teams also lowest (marked 1 = 'Never' on a five-point Likert scale). However, the responses to the SWB and PWB questions were in the moderate range, and responses to OCB towards the organization were on the positive side of the Likert scale. Hence, this case did not appear to be a case of respondent error or disinterest. The response pattern indicated that Respondent 152 did not trust the organization or the leader, at least at the time of the survey. It also appeared that the respondent disengaged from the affiliative citizenship behaviours towards clients and towards teammates. These extreme scores of the participant would affect the normality of the data distribution. However, Huck (2012) had pointed out that outliers could be of legitimate interest and should be considered carefully before removing or keeping them in the data set. Even though Respondent 152 indicated some extreme scores, a close look at the answers to each item in the survey indicated genuine responses, and therefore, it was considered important to retain the participant in the data set (Hair et al., 2017).

6.2.9 Normality

Skewness and kurtosis are measures used to check a distribution for normality. For a normal distribution, the values of skewness and kurtosis should be zero, but researchers rarely encounter this situation (Hair et al., 2017, p. 61). As general rule, if the distribution of responses is more towards the left of the normal distribution and the skewness is less

than –1, the data are regarded as being negatively skewed. Similarly, if the distribution of responses is more towards the right of a normal probability distribution, and above +1, then the data are regarded as being positively skewed. Positive skewness (also referred to as right tailed distribution) indicates that the majority of responses are distributed to the left of the mean (i.e. data has more low scores); whilst negative skewness (also referred as left tailed distribution) suggests that majority of responses are distributed on the right of the mean (i.e. data has more positive scores).

The kurtosis is checked to determine whether the distribution of the data is too peaked and centred on the mid-point. The general guideline for kurtosis is that a value greater than +1 indicates that the distribution is too peaked and less than –1 indicates the distribution is too flat (Hair et al., 2017). The response distribution for each item of its associated construct was checked for normality, by examining its skewness, and kurtosis.

The skewness and kurtosis results of all the measures in the study indicated a non-normal distribution. The values found for skewness and kurtosis were not close to zero, and many values were beyond +1 and –1 (Hair et al., 2017). The non-normal data of the sample, therefore, justifies the use of PLS-SEM for its analysis as Hair et al. (2019) indicates that researchers should select PLS-SEM 'when distribution issues are a concern, such as lack of normality' (p. 5).

The skewness and kurtosis of the items in each study variables are shown in Tables 6.2 to 6.5 to demonstrate the non-normal data but also to monitor that the data is not too abnormal as that inflates standard errors from bootstrapping which decrease the likelihood of some relationships will be assessed as significant (Hair et al. 2019).

Table 6.2 Skewness and kurtosis of OCB towards clients (OCBIc), teammates (OCBIt), and the organization (OCBO)

OCB towards Individuals and Organization Items (in Appendix B, Q 12 no. 1-6 on OCBIc; 7-12 OCBIt; and 13-18 OCBO)	Skewness		Kurtosis	
	Statistic	Std Error	Statistic	Std Error
OCBIc1	–1.381	0.172	2.468	0.341
OCBIc2	–1.807	0.172	5.293	0.341
OCBIc3	–0.705	0.172	0.864	0.341
OCBIc4	0.092	0.172	–0.249	0.341
OCBIc5	–0.081	0.172	–0.350	0.341
OCBIc6	0.667	0.172	0.435	0.341
OCBIt1	–1.689	0.172	5.321	0.341
OCBIt2	–0.966	0.172	0.610	0.341
OCBIt3	–2.774	0.172	13.735	0.341
OCBIt4	1.243	0.172	0.991	0.341
OCBIt5	–1.378	0.172	2.712	0.341
OCBIt6	–0.822	0.172	0.110	0.341
OCBO1	–0.880	0.172	1.583	0.341
OCBO2	–0.843	0.172	1.579	0.341
OCBO3	–1.604	0.172	3.539	0.341
OCBO4	–1.169	0.172	1.657	0.341
OCBO5	1.043	0.172	0.831	0.341
OCBO6	–0.971	0.172	1.502	0.341
Valid *n* (listwise)				

Key: OCBIc = Organizational citizenship behaviours towards clients; OCBIt = Organizational citizenship behaviours towards teammates; OCBO = Organizational citizenship towards the organization.

As shown in the Table 2.6, two items examining OCB toward clients, three items examining OCB toward team and two items examining OCB toward organizations were negatively skewed – meaning the participants responses distributed to the right of the mean; these respective OCB items also indicated a positive kurtosis indicating flatter distribution with more responses located in the tails. In other words, most participants responded with a higher than mean score on these selected items. Other responses on some of the respective items of OCBIc, OCBIt and OCBO were between +1 and –1, indicating a normal distribution.

Table 6.3 Skewness and kurtosis of SWB

Subjective Wellbeing Items	**Skewness**		**Kurtosis**	
(Appendix B, Q15, no1-9)	Statistic	Std Error	Statistic	Std Error
SWB1	–1.255	0.172	5.286	0.341
SWB2	–1.697	0.172	6.135	0.341
SWB3	–1.469	0.172	5.001	0.341
SWB4	–0.826	0.172	0.550	0.341
SWB5	–1.054	0.172	2.818	0.341
SWB6	0.977	0.172	0.732	0.341
SWB7	–1.181	0.172	2.280	0.341
SWB8	1.065	0.172	1.225	0.341
SWB9	1.296	0.172	1.338	0.341
Valid *n* (listwise)				

Five out of nine items that measured SWB, were negatively skewed indicating positive scores in the data; and two items were positively skewed that indicated low scores in the data. For example, on the 5 Point Likert scale, in which, 1= Strongly disagree, and 5= Strongly agree, most participants responded a higher score on item SWB1 which corresponds to Q15 no. 1, i.e. 'I feel good most of the time' (Appendix B). All these

items indicated positive kurtosis, indicating distribution of data toward the right side of the tail from its mean. On the reverse scored item, for example, SWB 9 that corresponds to Q15, no 9, i.e. 'I experience unhappy feelings most of the time' (Appendix B), the distribution of the participants' responses indicated a positive skewness, which means participants responded with low scores indicating positive feelings.

Table 6.4 Skewness and Kurtosis of PWB

Psychological Wellbeing Items (Appendix B, Q13, no. 1-7; Q14, no. 1-7)	**Skewness**		**Kurtosis**	
	Statistic	Std Error	Statistic	Std Error
PWBP1	1.048	0.172	0.326	0.341
PWBP2	–1.815	0.172	4.703	0.341
PWBP3	1.315	0.172	0.910	0.341
PWBP4	1.229	0.172	0.893	0.341
PWBP5	–1.369	0.172	2.157	0.341
PWBP6	–1.179	0.172	1.090	0.341
PWBP7	1.741	0.172	2.295	0.341
PWBA1	–0.998	0.172	0.519	0.341
PWBA2	–1.131	0.172	1.688	0.341
PWBA3	–0.033	0.172	-0.760	0.341
PWBA4	–1.485	0.172	3.191	0.341
PWBA5	0.397	0.172	-0.843	0.341
PWBA6	–0.024	0.172	-0.908	0.341
PWBA7	–1.382	0.172	1.848	0.341
Valid *n* (listwise)				

Key: PWBP = Purpose in life dimension of psychological wellbeing; PWBA = Autonomy dimension of psychological wellbeing.

Three items measuring purpose in life dimension of PWB were negatively skewed and showed positive kurtosis; this was also the case for the three items measuring autonomy dimension of PWB indicating participants responded mostly on higher scores on its

associated items. On the other hand, the rest of the items on purpose in life dimension were positively skewed, indicating lower scores on these items.

Table 6.5 Skewness and Kurtosis of WWB

WWB Items	**Skewness**		**Kurtosis**	
Appendix B, Q 9, no 1-5; Q10, no. 1-11; Q11, no. 1-5)	Statistic	Std. Error	Statistic	Std. Error
WWB1	–0.458	0.172	0.719	0.341
WWB2	–0.472	0.172	0.332	0.341
WWB3	–0.709	0.172	0.977	0.341
WWB4	–0.657	0.172	0.732	0.341
WWB5	–0.412	0.172	0.126	0.341
WWB6	–0.352	0.172	–0.144	0.341
WWB7	–0.392	0.172	0.075	0.341
WWB8	–0.322	0.172	–0.491	0.341
WWB9	–0.358	0.172	–0.425	0.341
WWB10	–0.349	0.172	–0.518	0.341
WWB11	–0.772	0.172	0.380	0.341
WWB12	–0.637	0.172	0.076	0.341
WWB13	–0.629	0.172	–0.138	0.341
WWB14	–0.647	0.172	0.044	0.341
WWB15	–0.257	0.172	–0.791	0.341
WWB16	–0.690	0.172	0.163	0.341
WWB17	0.517	0.172	–0.068	0.341
WWB18	0.408	0.172	–0.290	0.341
WWB19	0.468	0.172	–0.330	0.341
WWB20	0.600	0.172	0.357	0.341
WWB21	0.780	0.172	0.284	0.341
Valid *n* (listwise)				

None of the items of WWB were positively or negatively skewed; and its associated kurtosis indicated a normal distribution of responses from the participants on these items.

6.3 Preliminary statistical analysis

The preliminary analysis of the cleansed data (n = 201) commenced with analysing the demographics and creating a respondent profile. This was followed by analysing the descriptive statistics derived from the data.

6.3.1 Respondent profile

Of the 201 respondents, 157 (78.1%) are females and 42(20.9%) are males; the other two are invalid responses. See Figure 6.1.1. As a comparison, the 2017 report on the health workforce in Australia (http://hwd.health.gov.au) reported that 89% of nurses and midwives (Appendix F, p. 347) and 78.9% of psychologists (Appendix E, p. 342) are females.

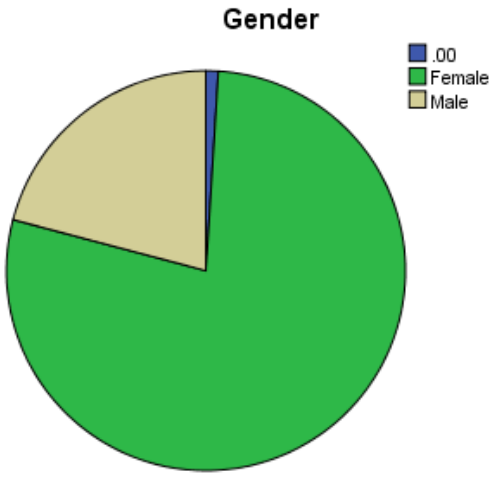


Figure 6.1.1 Respondent profile by gender

The age profile of the sample was: 29.4% 21–30 years; 19.9% 31–40 years; 21.4% 41–50 years; 19.9 % 51–60 years; 6.5 % 61–70 years; and 2% 71 years and above. Even though the age brackets differ, the age profile representation of this sample (*n* = 201) appeared to correspond to that of the population of nurses and midwives indicated in the national data on health professionals (See Appendix F). Further, the age profile in this sample reflected an aging population of nurses. This is also indicated in the health workforce data in Australia (http://hwd.health.gov.au), in which the proportion of the largest age group of nurses and midwives (45–65 years) is 24.9%. See Figure 6.1.2.

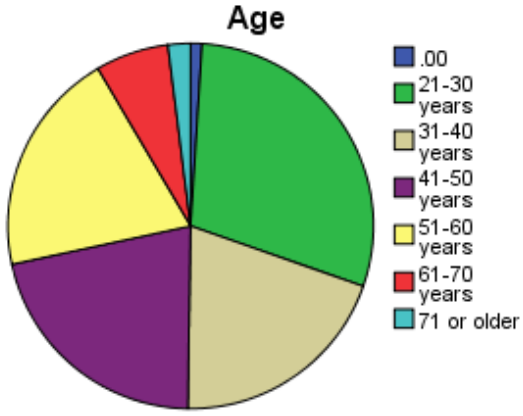


Figure 6.1.2 Respondent profile by age

The relationship statistics for the sample were: 48.8% married; 14.4% in a domestic relationship or civil union; 8.5% single but cohabiting with a significant other; 16.4% never married, 7% divorced; and 2% widowed. See Figure 6.1.3.

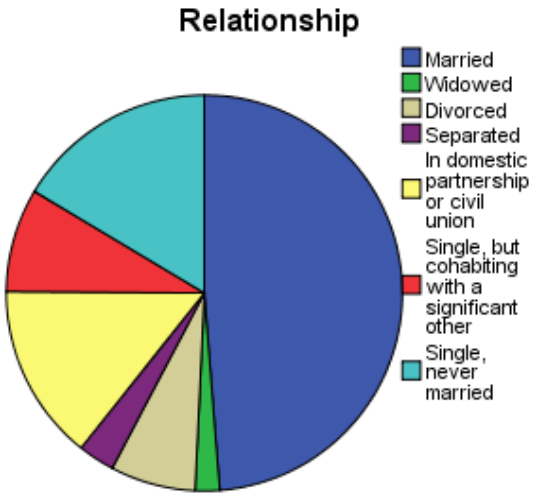


Figure 6.1.3 Respondent profile by relationship

Individuals need high qualifications to be registered in the health professions. The sample represented a highly educated section of the Australian population. Most respondents reported achieving a postgraduate degree, followed those who reported an undergraduate degree. See Figure 6.1.4.

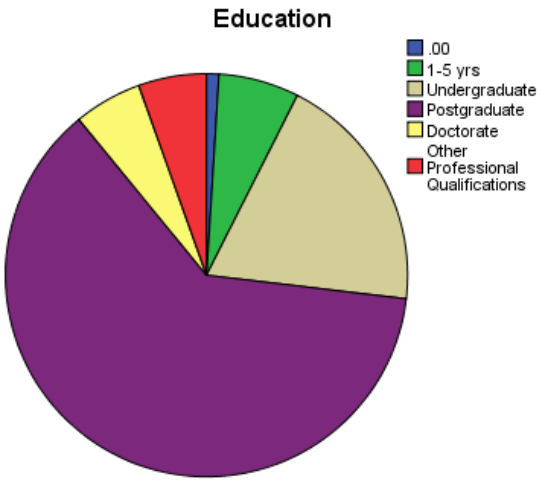


Figure 6.1.4 Respondent profile by education

The majority of respondents had worked in the profession for one to five years, followed by those who worked six to ten years. A significant portion of the sample reported working for over 25 years. These statistics should alert the Australian health sector to the aging of the health workforce. More specifically, in this sample 37.3% reported having worked in the health profession for 1–5 years; 21.4 % 6–10 years; 13.4% 11–15 years; 11.9% 16–20 years; 5% 21–25 years; and 10.9% 25 or more years. See Figure 6.1.5.

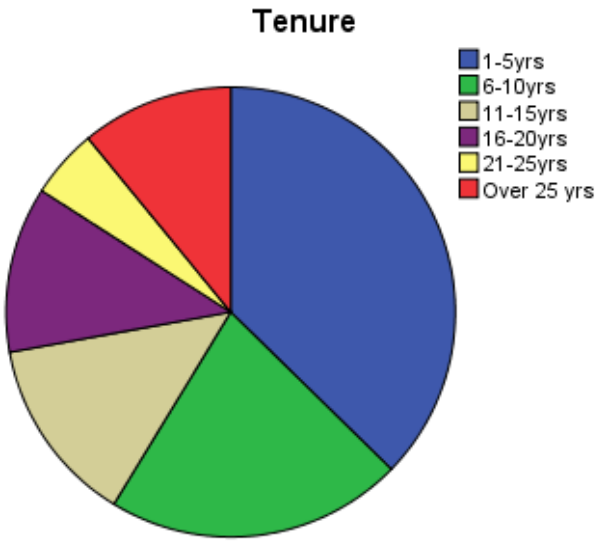


Figure 6.1.5 Respondent profile by tenure

Majority of the health professionals in the sample are in full-time work. That is, 58.2% reported being in full-time employment. Further, 38.8% reported part-time employment, 2% reported that they were looking for work or not employed, and 1% did not respond. In retrospect, the researcher missed incorporating the 'Casual' employment category of employment status. However, since majority of participants responded (n = 201) as being employed full-time or part-time, this omission may not have adversely affected the

demographics on employment status. See Figure 6.1.6. Nevertheless, the researcher will pay attention to this variable in her future research endeavours.

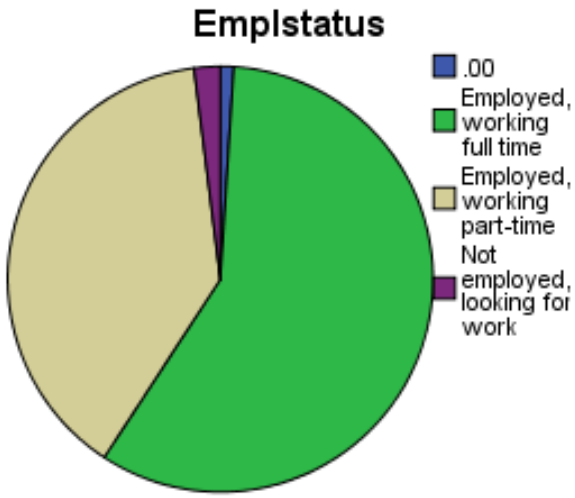


Figure 6.1.6 Respondent profile by employment status

In responses to job level, 48.8 % of the sample are psychologists. In comparison, the Australian Institute of Health Workforce (AIHW) statistics (2017) indicated that psychologists (19.8%) accounted for the highest proportion of the allied health practitioners' workforce in Australia (https://www.aihw.gov.au/health-workforce). The profile of job levels in the remainder of the sample are: 12.4% Registered nurses; 6% Assistant in Nursing; 6% Social Workers; 1.5% physiotherapists; 13.4% identified as 'Other allied health-workers'; 0.5% did not respond to the job level question. See Figure 6.1.7.

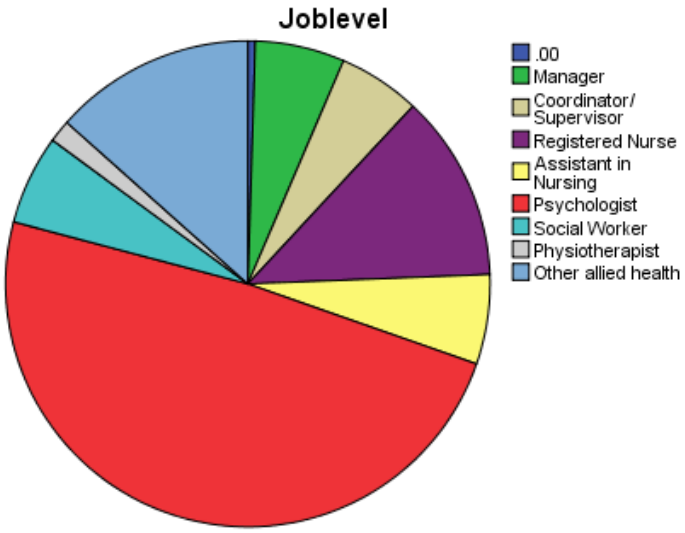


Figure 6.1.7 Respondent profile by job level

The ethnic origin profile of the sample is 66.7% Australian; 7% North-West European; 9% South-Eastern European; 6.5% are South-East Asian; 2% North African – Middle Eastern; other ethnic origins are each 1% or less. In comparison to this sample, 63.9% of nurses and 73.3% of psychologists reported being born in Australia in the 2017 (http://hwd.health.gov.au) report of the Australian workforce (Appendices J and I respectively). Hence, both the sample statistics, and the national statistics indicated that majority of nurses and allied health professionals identified as Australian. See Figure 6.1.8.

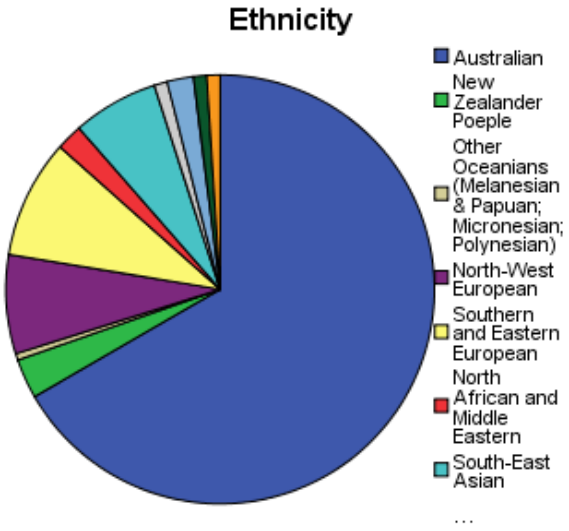


Figure 6.1.8 Respondent profile by ethnicity

6.3.2 Mean responses to variables

The preliminary analysis of the data (n = 201) calculated the mean scores for all the study variables and their respective measures. These mean scores are shown in Table 6.6. Further, details of the analysis of the means of each item of their associated measures are presented in Appendix C. A summary and discussion of the descriptive analysis of responses to each study variable (Table 6.6 and Appendix C) are as follows.

The mean responses of the participants to OCB towards clients (OCBIc), teammates (OCBIt) and the organization (OCBO) are all high on the five-point Likert scale, in which 1 = Never and 5 = Always. Hence, on the five-point Likert scale, the participants reported a mean level of OCB towards clients as 3.84; teammates as 4.17; and the organization as 4.19. Analysis of the descriptive statistics is also reported in Appendix C, in which the mean responses on items measuring OCB toward clients ranged from 3.1 (item OCBIC4) to 4.3 (OCBIC1); OCB toward teammates ranged from 3.9 (OCBIT2) to 4.6 (OCBIT3),

and OCB toward the organization ranged from 3.8 (item OCBO1) to 4.4 (item OCBO3). The nurses and allied health professionals in this study therefore reported engaging in high levels of OCB towards clients, teammates, and the health organization.

The results of the study indicate that health care workers like nurses and allied health professionals are likely to hold altruistic values about helping people. The findings of this study are supported in the literature; for instance, Chang & Chang (2010) demonstrated that nurses engaged in high citizenship behaviours. Further, in a UK study, Hyde et al. (2013) identified the importance of such prosocial behaviours of health workers in patient care, team efficiency, and organization.

In this study, the sample mean of SWB of health professionals is high at 3.54 (Table 6.6). The nurses and allied health professionals in this sample, therefore, report a higher level of SWB. Further, within the SWB dimensions participants report a higher level of life satisfaction and positive affect, and they simultaneously reported a higher level of negative affect in this study. However, high levels of negative affect in this study implies low levels of negative affect as items were reversed scored. The overall finding that the health professionals indicated a higher level of SWB is different with the literature, which states that more than 50% of nurses report low SWB (e.g. Dilig-Ruiz et al. 2018).

In this study, two dimensions were used as a proxy for PWB: autonomy (PWBA) and purpose in life (PWBP), with seven items each from Ryff's scale of PWB (Ryff, 1989). Each item was measured on a six-point Likert scale, in which 1 = strongly disagree and 6 = strongly agree. All participants reported moderately high on PWB (mean 4.66) (Table 6.6), indicating that the nurses and allied health professionals experienced a higher level

of autonomy and purpose in life. Between the two dimensions, however, the mean level for autonomy was slightly lower than purpose in life.

Further, as shown in Appendix C, all responses to positively stated items on both dimensions of PWB were above average, which indicated that nurses and allied health professionals experienced autonomy and purpose in their lives. On the negatively stated items (reverse scored) of both autonomy (for instance, item PWBA3R, 'I tend to be influenced by people with strong opinions') and purpose in life (for instance, item PWBP3R, 'I don't have a good sense of what it is I am trying to accomplish in life'), participants also responded above mean (≥ 4 = slightly agree), which confirmed that the health professionals in this sample experienced autonomy and purpose in life.

WWB is measured on a five-point Likert scale from 1 = Not at all to 5 = Extremely, and the mean score of the health professionals as presented in Table 6.6 is 3.15. Of its four dimensions (Parker & Hyett, 2011), participants' means are the highest on 'Intrusion of work into private life' (= 4.07), which is one of the five negatively stated items (Appendix B, Q11) and reverse scored. This means the participants reported that work did not interfere in their personal life. On the other dimensions of the WWB scale, participants report above average 'work satisfaction' (= 2.95), 'organizational respect for the employees' (= 2.68) and 'employer care' (= 2.94). This means, in general, that the participants in this study evaluated their job as satisfactory; that the organization's values, like trust, synchronized with their own; and that, the leaders and supervisors of the health setting cared and provided support in times of need.

Further, as indicated in Appendix C, participants scores on WWB ranged from 2.5 (on item WWB15) to 3.2 (on item WWB11). These figures indicate that the cohort of nurses

and allied health professionals moderately agreed on the positively stated items such as 'Does your work bring you a sense of satisfaction' (mean on item WWB3 = 3.04). However, participants rated above the mean in the negatively stated items that measured 'intrusion of work into private life'. For instance, on the negatively stated items of WWB, for example, on item WWB18R, 'Do you feel stressed in organizing your work demand?', participants' responses averaged 3.9; and on item WWB20R, 'After work, do you find it hard to wind down', the average was 4.3. Since, these negatively stated items were reverse scored, it meant that there was no intrusion of work into the private lives of the participating nurses and allied health professionals.

Table 6.6 shows the means of the study variables and the measures within.

Table 6.6 Variable Means of Study Variables

Descriptive Statistics				
Constructs	**Measures**	**Max**	**Mean**	**Std Dev**
OCB toward client	OCBIc (6 items)	5	3.84	0.502
OCB toward teammates	OCBIt (6 items)	5	4.17	0.243
OCB toward organization	OCBO (6 items)	5	4.19	0.230
Work satisfaction	WS (5 items)	5	2.95	0.148
Organizational respect	POS (5 items)	5	2.67	0.109
Employer care	LS (6 items)	5	2.93	0.235
Intrusion of work	WLI (5 items)	5	4.07	0.142
Work wellbeing	WWB (21 items	5	3.15	0.620
Purpose in life	PWBpur (7 items)	6	5.00	0.225
Autonomy	PWBaut (7 items)	6	4.30	0.302
Psychological wellbeing	PWB (14 items)	6	4.65	0.491
Life satisfaction	SWBsat (3 items)	5	3.20	1.365
Positive affect	SWBpos (3 items)	5	3.82	0.230
Negative affect	SWBneg (3 items)	5	3.59	1.378
Subjective wellbeing	SWB (9 items)	5	3.54	0.310
n=201				

6.4 Evaluation of (Outer) measurement model

As discussed in Chapter 4 on the concept measurement model, two reflective outer models of the respective exogenous wellbeing and endogenous citizenship variables are formed. In this chapter, the outer models of these respective measures are examined for their reliability and validity. Since both the exogenous (wellbeing variables) and the endogenous (citizenship variables) latent variables in their respective outer models are considered reflective, the assessment of each of the outer reflective measurement models included analyses of indicator reliability, internal consistency, convergent validity and discriminant validity (Hair et al. 2017).

6.4.1 Indicator reliability

The outer loadings of endogenous OCB latent criterion variables (OCBIc, OCBIt, OCBO) are assessed for the indicator reliability of each item of associated variables.

The outer loadings indicate the amount of variance that an item explains in measuring its underlying construct and should be greater than 0.7. After running the PLS algorithm, most of the items measuring OCBIc, OCBIt and OCBO are above the threshold loading criterion of 0.7 (Hair et al. 2017, p. 113). However, a few items are below the critical value of 0.7.

Even though items that have a value less than 0.7 for their outer loadings should, strictly, be deleted, an item might be retained for content validity. For instance, an item between 0.4 and 0.7 can be retained if the content validity of the construct is affected. Content validity is the subjective but systematic evaluation of how well the indicators of a construct capture its contents (Hair et al. 315). However, indicators with very low outer loadings, below 0.4, must always be eliminated (Hair et al. 2017, p. 113). Accordingly,

in the outer model of the endogenous citizenship behaviours, the items OCBIc12vi (0.117), OCBIt12x (0.099), and OCBO 12xvii (0.216), which had loadings < 0.40 are dropped from their respective constructs. All these items were reverse scored, and the negatively worded statements may have confused some of the participants which may have affected the reliability of these items. The results on the outer loadings on the latent variables of OCB towards clients (OCBIc), teammates (OCBIt), and the organization (OCBO) are shown in Tables 6.7–6.15. The outer loadings on items measuring organizational citizenship behaviour towards clients are shown in Table 6.7; towards teammates, in Table 6.8, and towards the organization, in Table 6.9

Table 6.7 Outer loadings of OCB towards clients (OCBIc)

Item Nos measuring OCBI towards clients/ patients	Items	Outer Loadings	Outer Loadings after dropped items with < 0.4
OCBIc12i	Provide emotional support to clients/patients	0.78	0.774
OCBIc12ii	Focus on the needs of clients and attempt to meet all needs	0.835	0.824
OCBIc12iii	Take extra time to respond to patient needs	0.858	0.868
OCBIc12iv	Stay late to help cl/pt. or a client's family	0.596 (0.6)	0.627
OCBIc12v	Provide assistance to a client/pt. even when not part of job description	0.568 (0.6)	0.590
OCBIc12viR	Be reluctant to constructively respond to patient's complaints	0.117	Dropped

Key: OCBIc = Organizational citizenship behaviour towards clients

Table 6.7, after dropping the item OCBIc12viR, shows the outer loadings on some of the other items measuring organizational citizenship towards clients improved.

Table 6.8 Outer loadings of OCB towards teammates (OCBIt)

Item No measuring OCBI towards teammates	Items	Outer Loadings	Outer Loadings after dropped items < 0.4
OCBIt12ix	Act courteously	0.437	0.439
OCBIt12vii	Cooperate closely with team members to ensure continuity of care	0.563	0.563
OCBIt12viii	Actively participate in reflective practice through team meetings	0.67	0.667
OCBIt12xR	Be reluctant to volunteer to share special knowledge or expertise with other hospital workers	0.099	Dropped
OCBIt12xi	Lend assistance to a co-worker who is in a difficult situation	0.829	0.836
OCBIt12xii	Willingly assist and care to teammates and co-workers	0.836	0.836

Key: OCBIt = Organizational citizenship behaviours towards teammates.

Table 6.8, after dropping the item, OCBIt12xR, shows there is not much difference in the outer loadings of the other items measuring organizational citizenship towards teammates.

Table 6.9 Outer loadings of OCB towards the organization (OCBO)

Item No measuring OCBO	OCBO Items	Loadings	Loadings after dropped items with < 0.4
OCBO12xiii	Make sure equipment and/or materials are not wasted	0.684	0.692
OCBO12xiv	Make sure physical space at work is safe, clean, and pleasant	0.714	0.721
OCBO12xv	Give advance notice when unable to come to work	0.645	0.644
OCBO12xvi	Conserve and protect organizational property	0.838	0.834
OCBO12xviiR	Take undeserved work break	0.216	Dropped
OCBO12xviii	Maintain the image of the hospital or the health setting and proactively participate in relevant activities	0.686	0.683

Key: OCBO = Organizational citizenship towards the organization.

Next, the outer loadings of the items measuring the three exogenous wellbeing variables are assessed and presented systematically, beginning with WWB, followed by PWB, and finally SWB.

The outer loadings on the 21 items measuring WWB in this study (Parker & Hyett, 2011) are measured on its four factors: 'Work Satisfaction' (in this study coded, WS); 'Organizational Respect for the Employee' (in this study coded POS); 'Employer Care' (in this study coded LS); and 'Intrusion of Work into Private Life' (in this study coded WLI). The outer loadings of the four factors of the WWB items are shown in the following tables.

Table 6.10 Outer loadings of 'Work Satisfaction' (WS) variable of WWB

Items Workplace Wellbeing-Work Satisfaction (WS)	WWB Items (21 items; Q9, Q10 & Q11) Q9 in survey taps into work satisfaction.	Loadings	Loadings after dropped items with < 0.4
WS9i	Is your work fulfilling?	0.712	0.709
WS9ii	Does your daily work give you a sense of direction and meaning?	0.75	0.749
WS9iii	Does your work bring you a sense of satisfaction?	0.734	0.734
WS9iv	Does your work increase your sense of self-worth?	0.681	0.681
WS9v	Does your work make you feel that, as a person, you are flourishing?	0.722	0.721

Key: WS=Workplace Satisfaction

All five selected items measuring the 'work satisfaction' factor of WWB (Parker & Hyett, 2011) had an outer loading equal to or greater than 0.7. This meant that these items are adequate and reliable to measure the participating nurses and allied health professionals' perception of satisfaction or fulfilment in their respective work.

The outer loadings of the five items measuring 'organizational respect for the employee' (13.5% of the variance in WWB; Parker & Hyett's, 2011)—that is, whether employees perceived their organization as trustworthy, having ethical values, valued staff, and treating the employees well—are shown in Table 6.11.

Table 6.11 Outer loadings for items measuring 'Organizational Respect for the Employee' variable of WWB

Items WWB - Organizational Respect for Employees	WWB Items (Q10 first five items tap into employee's trust and positive perception of his or her organization)	Loadings	Loadings after dropped items with < 0.4
POS10i	In general terms, do you trust the senior people in your organization?	0.78	0.78
POS10ii	Do you believe in the principles by which your organization operates?	0.716	0.716
POS10iii	Do you feel content with the way your organization treats staff?	0.821	0.824
POS10iv	Do you feel that your organization respects the staff?	0.834	0.835
POS10v	How satisfied are you with your organization's value system?	0.782	0.783

Key: POS represented the 'Organizational respect for employees' items

All five items measuring the 'organizational respect for employees' factor of WWB (Parker & Hyett, 2011) had an outer loading greater than 0.7. These five items are therefore a reliable measure of whether the nurses and the allied health professionals trusted and felt valued by the workplace.

Table 6.12 Outer loadings for items measuring 'Employer Care' variable of WWB

Items in WWB—Employer Care	WWB Items (Q10 next 6 items tap into worker's perception of leadership support)	Loadings	Loadings after dropped items with < 0.4
LS10ix	Does your boss treat you as you would like to be treated?	0.828	0.830
LS10vi	At a difficult time would your boss be willing to lend an ear	0.807	0.809
LS10vii	Is your boss caring?	0.83	0.832
LS10viii	Do you feel that your boss is empathic and understands your concerns?	0.813	0.815
LS10x	Does your boss shoulder some of your worries?	0.714	0.715
LS10xi	Do you feel your transactions with your boss are, in general positive?	0.833	0.834

Key: LS represented the Employer Care items

To measure the third factor, 'Employer Care' (10.9% of the variance of WWB; Parker & Hyett's, 2011), six items with high factor loading in the original measure are selected. The items represented employee perceptions of the supervisor; for example, whether he or she is willing to listen and understand employees' work concerns. In this study, all five items measuring the 'employer care' factor of WWB (Parker & Hyett, 2011) had an outer loading equal to or greater than 0.7. Thus, these items deemed reliable to measure the health professionals' perception of their leader support.

Table 6.13 Outer Loadings for items measuring 'Intrusion of Work into Private Life' variable of WWB

Items in WWB—Intrusion of work into private life	WWB Items Q11 in the survey has 5 items that tap into the worker's perception of work interference into private life.	Loadings	Loadings after dropped items with < 0.4
WLI11i	Does your work eat into your private life?	–0.034	Dropped
WLI11ii	Do you feel stressed in organizing your worktime to meet demands?	0.05	Dropped
WLI11iii	Do you feel excessively pressured at work to meet targets?	0.242	Dropped
WLI11iv	After work, do you find it hard to wind down?	0.062	Dropped
WLI11v	Do you find yourself thinking negatively about work hours?	0.025	Dropped

Key: WLI represented the 'Intrusion of work into private life' items.

None of the five items measuring the 'intrusion of work into private life' factor of WWB (Parker & Hyett, 2011) had an outer loading equal to or greater than 0.7. These outer loadings are all less than 0.4, therefore, all five items measuring work interference into employees' private lives are dropped. This was a surprise, given that the fourth factor in the original measure (Parker & Hyett's, 2011), 'intrusion of work into private life', accounted for 9.3% of the variance in WWB. The weaker outer loadings for WLI may have occurred because not all items from the original measure (Parker & Gordon, 2011) were selected. Cortina (1993, in Crouch et al., 2017) indicated that the reliability of the scale is affected by the number of test items. However, in this study, the four scales of WWB were truncated to keep the survey short. The intrusion of work in private life is a valid hedonic factor of wellbeing at work (Hyett & Parker, 2015), and, therefore, must be re-examined with all items included in similar studies in the future.

Next, the outer loadings of PWB items are reported. To measure PWB, two factors from Ryff's six-factor Psychological Wellbeing Scale (Ryff, 1989; Springer & Hauser, 2006; Abbots et al., 2006) are selected. The two scales selected are 'autonomy' (coded in this study PWBA/PWBaut) and 'purpose in life' (coded in this study PWBP/PWBpur), with seven items each (Ryff, 1989; Springer & Hauser, 2006; Abbots et al., 2006). The reasons to select these two dimensions of PWB have been discussed in Chapter 5 and, both 'autonomy' and 'purpose in life' are indicated in the literature as relevant and significant for nurses and allied health professionals (Utriainen et al. 2015). Since the current study is on nurses and allied health professionals, these two dimensions are selected for this analysis. However, in this study, these two dimensions are not explored individually but are taken together as a proxy for eudemonic PWB. The items measuring autonomy are coded PWBA and those measuring purpose in life are coded PWBP.

Table 6.14 Outer Loadings of PWB - 'autonomy' (PWBA) and 'purpose in life' (PWBP)

Psychological Wellbeing Item No	PWB Items	Loadings	Loadings after dropped items with < 0.4
PWBA14i	I am not afraid to voice opinions. .	0.637	0.652
PWBA14ii	My decisions are not influenced. .	0.743	0.754
PWBA14iiiR	I tend to be influenced. .	0.633	0.635
PWBA14iv	I have confidence in my opinions. .	0.714	0.713
PWBA14vR	It is difficult to voice my opinions. .	0.607	0.620
PWBA14viR	I tend to worry about what other people might think of me	0.597	0.611
PWBA14vii	I judge myself by what I think is important, not by values of what others think is important	0.336	Dropped
PWBP13i	I live one day at a time and do not think of the future	0.002	Dropped
PWBP13ii	I have a sense of direction and purpose in life	0.522	0.518
PWBP13iiiR	I do not have a good sense of what it is I am trying to accomplish in life	0.492	0.476
PWBP13ivR	My daily activities seem trivial and unimportant to me	0.418	0.404
PWBP13v	I enjoy making plans for the future and working to make them a reality	0.528	0.523
PWBP13vi	Some people wander aimlessly through life, but I am not one of them	0.435	0.431
PWBP13vii	I sometimes feel as if I 've done all there is to do in life	0.278	Dropped

As indicated in the Table 6.14, three items from PWB are dropped as the values of its outer loadings are below 0.4 (Hair et al. 2017, p. 113):one item is dropped from items measuring the autonomy (PWBA) variable of PWB; and two items are dropped from the purpose in life (PWBP) variable of PWB.

Table 6.15 Outer Loadings of SWB

Subjective Wellbeing Item Nos	SWB Items	Loadings	Loadings after dropped items with < 0.4
SWBneg15iiiR	I feel bad most of the time	–0.762	–0.763
SWBneg15ixR	I experience unhappy feelings most of the time	0.774	0.770
SWBneg15viR	I feel negative most of the time	0.722	0.719
SWBpos15i	I feel good most of the time	0.812	0.814
SWBpos15iv	I feel positive most of the time	0.804	0.806
SWBpos15vii	I feel happy most of the time	0.78	0.782
SWBsat15ii	My life is going well	0.742	0.745
SWBsat15v	In most ways my life is close to ideal	0.908	0.909
SWBsat15viii	I am satisfied with my life	–0.507	–0.500

The SWB items measuring life satisfaction, negative and positive affect are adopted from the measure on the comprehensive inventory of thriving (Su et al., 2014). The outer loadings of all the nine items measuring SWB are above the critical threshold of 0.7, which meant indicator reliability of SWB items are significant.

6.4.2 Internal consistency reliability

The internal consistency reliability (Cronbach's alpha), Rho A, composite reliability, and average variance extracted (AVE) of the reflective latent variables are now assessed. This is shown in Table 6.16, followed by a discussion of each finding:

Table 6.16 Cronbach's alpha, Rho A, composite reliability, and average variance extracted (after dropping the weak loaded items)

Reliability of the latent study constructs	Cronbach's alpha	Rho A	Composite Reliability	Average Variance Extracted (AVE)
OCBIc	0.800	0.846	0.859	0.555
OCBIt	0.708	0.777	0.808	0.471
OCBO	0.766	0.782	0.841	0.515
PWB	0.803	0.812	0.848	0.344
SWB	0.678	0.932	0.830	0.583
WWB	0.956	0.960	0.960	0.600

6.4.3 Cronbach alpha & Rho A

The Cronbach alpha provides an estimate of reliability based on intercorrelations of the observed items of its associated construct; and its critical threshold should be 0.7. However, Hair et al. (2017) comment on its limitation as the Cronbach alpha assumes that all indicators are equally reliable. This is contrary to PSL-SEM, which prioritizes items according to their respective reliability. The other limitation of this form of evaluating internal consistency reliability is that it has a tendency toward underestimation (and is sensitive to the number of items in the scale). Hence, compared with the other measures of internal reliability, it usually results in relatively lower reliability values (Hair, 2017). Rho A is considered a better alternative to Cronbach's alpha and in this study Rho A is greater than its critical value of 0.7. However, the Cronbach Alpha is a commonly employed indicator to report test reliabilities and its critical value points out the sufficient length of the test used to measure the study variables (Tavakol & Dennick, 2011), and therefore reported in the thesis.

In this study, as demonstrated in Table 6.16 above, all the reflective latent variables matched the Cronbach alpha criterion (≥ 0.7) and, the internal consistency reliability of SWB, PWB, WWB, OCBIc, OCBIt, and OCBO were therefore each confirmed, accepted and reported.

6.4.4 Composite reliability

Another method for assessing the internal consistency reliability of the reflective measures is the composite reliability. Hair et al. (2017) indicates that generally a composite reliability of 0.6 to 0.7 is acceptable in exploratory research, though a composite reliability between 0.7 and 0.9 is considered satisfactory.

However, the composite reliability tends to overestimate internal consistency reliability. Hair (2017) therefore says that true internal consistency reliability lies between Cronbach's alpha and composite reliability. In this exploratory study, both the Cronbach alpha and composite reliability of all the reflective study variables were above the threshold values (Table 6.16). Figure 6.2 depicts the composite reliability of the measures in this study.

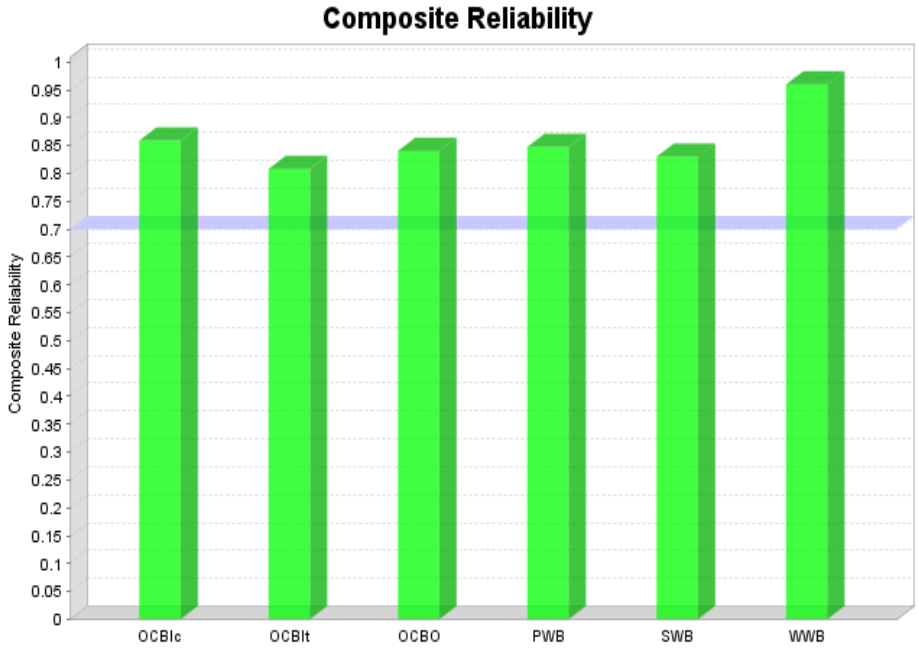


Figure 6.2 Composite Reliability

6.4.5 Convergent validity

The above sections evaluated the reliability of the items in terms of their associated measures. An item may be reliable but may not measure what it is supposed to measure, in which case the item is invalid. Hence, it is important to evaluate the respective measures' validity. One method of doing this is to calculate the average variance extracted (AVE) of the respective measures. The AVE checks the convergent validity and indicates the degree to which an item might measure the underlying construct, relative to its measurement error variance. The AVE of a valid construct must be 0.5.

As shown in Table 6.16, the AVE indicating the convergent validity of the items measuring organizational citizenship behaviour towards teammates is 0.47 and is rounded up to meet the convergent validity criteria of 0.5.

As indicated in literature (Hair et al., 2017; Crouch et al., 2017), the number of items influences both the reliability and validity of a construct. The AVE of all other study variables met the critical value of 0.5. However, in Table 6.16, the AVE of the PWB construct is less (0.344) than the critical threshold (0.5). This may have been the case as only two sub-scales of the total six sub-scales of Ryff's PWB (1989) used in this study appeared inadequate to represent PWB. Studies in the past have confirmed and validated the construct validity for Ryff's scale (such as, Ryff, 2014, Hsu et al. 2017). Moreover, Keyes and Ryff (2002) indicated purpose in life and autonomy were two of the three distinct existential pure eudemonic factors in the full scale (Ryff, 1989), therefore the associated items of these sub-scales were unlikely to inter-correlate and converge as indicated by the low AVE in this study. In reflection, the subscales should have been used as autonomy and purpose in life were two distinct aspects of PWB. As Piero et al.'s study (2019) explored two pure eudemonic aspects of Ryff's PWB, i.e. purpose in life and personal growth in performance, the idea of exploring the measurement model of the two distinct aspects of PWB on OCB will have to be explored and published in future from this data set.

The following figure depicts the AVE of all the measures used in this study.

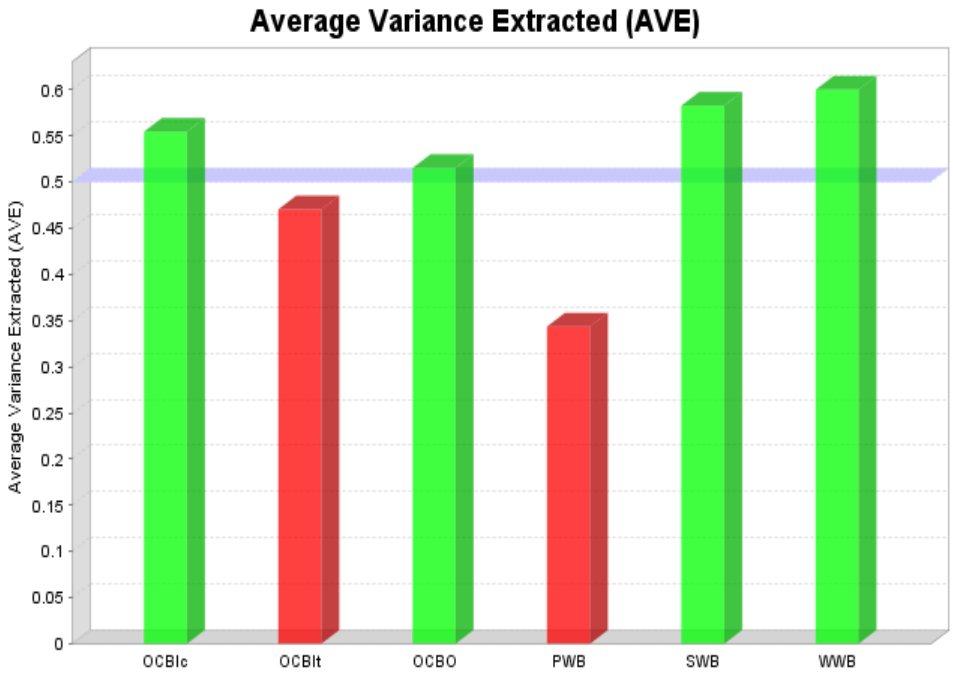


Figure 6.3 Average Variance Extracted (AVE)

6.4.6 Discriminant validity

The discriminant validity was examined for all the constructs. Discriminant validity indicates the extent to which a construct is unique and how well the measuring items captures the phenomenon of the construct not represented in any other constructs under study. For this, the following methods of testing the discriminant validity of each measure are implemented as in the following sections 6.4.6.1 and 6.4.6.2.

6.4.6.1 Fornell–Larcker criterion

The Fornell–Larcker criterion is a traditional way of assessing discriminant validity. It compares the square root of the AVE value of each construct with other latent variable correlations. In this study, there are three endogenous OCB variables, i.e. OCBI towards clients (OCBIc), OCBI towards teammates (OCBIt), and OCBO towards the organization (OCBO); and three exogenous employee wellbeing variables, i.e. SWB, PWB, and WWB Table 6.8 on the Fornell–Larcker criterion indicates that each of the OCB dimensions towards client (OCBIc), teammates (OCBIt), and the organization (OCBO), and the EWB variables (PWB, SWB, and WWB) have the highest square root AVE values for its associated construct, compared with any other construct in the study. The study variables are, therefore, truly distinct from one another.

Table 6.17 Discriminant Validity (Fornell–Larcker Criterion)

	OCBIc	OCBIt	OCBO	PWB	SWB	WWB
OCBIc	0.745					
OCBIt	0.555	0.686				
OCBO	0.235	0.370	0.718			
PWB	0.263	0.377	0.176	0.586		
SWB	0.054	0.077	0.242	0.434	0.763	
WWB	0.144	0.181	0.294	0.240	0.333	0.775

Key: OCBIc = Organizational citizenship behaviours towards clients; OCBIt = Organizational citizenship behaviours towards teammates; OCBO = Organizational citizenship behaviours towards the organization; SWB= Subjective wellbeing; PWB = Psychological wellbeing WWB= Workplace wellbeing.

6.4.6.2 Cross-loadings

In cross-loadings of a measure, each item should have a higher outer loading on its associated construct than any cross-loading (correlation) on any other item of the study constructs. It helps the checking if the variables under study are distinct, each measuring what it is intended to measure. Examining the cross-loadings provides initial support for the reflective construct's discriminant validity, in which each item loads highest on the associated construct it measures. The cross-loadings of the study variables and its associated items are shown in the following Table 6.18.

Table 6.18 Cross-loadings

Items	OCBIc	OCBIt	OCBO	PWB	SWB	WWB
EC10ix	0.069	0.131	0.210	0.136	0.269	0.830
EC10vi	0.046	0.129	0.178	0.095	0.202	0.809
EC10vii	0.065	0.163	0.203	0.131	0.215	0.832
EC10viii	0.082	0.131	0.191	0.181	0.174	0.815
EC10x	0.098	0.148	0.157	0.172	0.124	0.715
EC10xi	0.051	0.082	0.163	0.142	0.234	0.834
OCBIc12i	0.774	0.405	0.170	0.205	0.044	0.113
OCBIc12ii	0.824	0.387	0.186	0.228	0.059	0.145
OCBIc12iii	0.868	0.509	0.265	0.258	0.130	0.191
OCBIc12iv	0.627	0.387	0.086	0.139	–0.057	–0.029
OCBIc12v	0.590	0.407	0.118	0.100	–0.074	0.027
OCBIt12ix	0.204	0.439	0.136	0.117	0.067	0.130
OCBIt12vii	0.370	0.563	0.203	0.167	–0.039	0.026
OCBIt12viii	0.430	0.667	0.312	0.257	0.075	0.181
OCBIt12xi	0.391	0.836	0.227	0.317	0.008	0.093
OCBIt12xii	0.472	0.836	0.347	0.351	0.128	0.180
OCBO12xiii	0.124	0.253	0.692	0.181	0.113	0.152
OCBO12xiv	0.124	0.226	0.721	0.081	0.172	0.211
OCBO12xv	0.181	0.324	0.644	0.137	0.195	0.100

OCBO12xvi	0.131	0.246	0.834	0.083	0.226	0.248
OCBO12xviii	0.267	0.295	0.683	0.168	0.156	0.283
OR10i	0.019	0.095	0.188	0.123	0.200	0.780
OR10ii	0.081	0.194	0.200	0.145	0.090	0.716
OR10iii	0.075	0.140	0.220	0.095	0.193	0.824
OR10iv	0.091	0.137	0.238	0.091	0.210	0.835
OR10v	0.056	0.173	0.241	0.112	0.190	0.783
PWBA14i	0.163	0.134	0.007	0.652	0.169	0.061
PWBA14ii	0.198	0.271	0.140	0.754	0.190	0.106
PWBA14iiiR	0.171	0.259	0.075	0.635	0.073	–0.026
PWBA14iv	0.154	0.222	0.115	0.713	0.227	0.121
PWBA14vR	0.211	0.290	–0.002	0.620	0.147	0.086
PWBA14viR	0.132	0.171	0.077	0.611	0.257	0.153
PWBP13ii	0.148	0.213	0.150	0.518	0.415	0.268
PWBP13iiiR	0.110	0.177	0.112	0.476	0.368	0.250
PWBP13ivR	0.056	0.096	0.027	0.404	0.240	0.194
PWBP13v	0.162	0.267	0.230	0.523	0.397	0.254
PWBP13vi	0.104	0.180	0.106	0.431	0.351	0.115
SWBneg15iiiR	—0.079	–0.130	–0.230	–0.268	–0.763	–0.228
SWBneg15ixR	0.025	0.071	0.160	0.413	0.770	0.257
SWBneg15viR	0.020	0.013	0.191	0.412	0.719	0.290
SWBpos15i	0.051	0.052	0.142	0.375	0.814	0.271
SWBpos15iv	0.038	0.030	0.232	0.301	0.806	0.253
SWBpos15vii	0.061	0.033	0.186	0.239	0.782	0.263
SWBsat15ii	0.038	0.069	0.125	0.386	0.745	0.249
SWBsat15v	0.046	0.072	0.222	0.399	0.909	0.296
SWBsat15viii	0.093	–0.006	–0.077	–0.261	–0.500	–0.206
WS9i	0.193	0.141	0.245	0.299	0.379	0.709
WS9ii	0.196	0.187	0.301	0.325	0.400	0.749
WS9iii	0.209	0.127	0.268	0.329	0.357	0.734
WS9iv	0.126	0.056	0.202	0.168	0.277	0.681
WS9v	0.159	0.129	0.279	0.220	0.382	0.721

Key: SWBsat = SWB items measuring satisfaction; SWBneg = SWB items measuring negative emotions; SWBpos = SWB items measuring positive emotions; WS = WWB items measuring work satisfaction; OR = WWB items measuring organization respect for employees; EC = WWB items measuring employer care; PWBA = Psychological wellbeing (PWB) items measuring autonomy; and PWBP = PWB items measuring purpose in life.

6.4.6.3 HTMT Ratio

Since the discriminant validity issues are not reliably detected by either the Fornell–Larcker criterion or the cross-loading technique, an alternative reliability criterion is applied (Henseler et al., 2015, in Hair et al., 2017). This is called the Heterotrait–Monotrait ratio (HTMT) and is the ratio of the between-trait correlations to the within-trait correlations. It is the mean of all correlations of items across variables measuring the different constructs. Hence, if two constructs are perfectly reliable and perfectly measured, then the HTMT would be close to 1 and indicate a lack of discriminant validity. The conservative HTMT threshold criterion level, however, is 0.85. (Hair et al., 2017).

Table 6.19 HTMT ratios—values between pairs of study constructs

	OCBIc	OCBIt	OCBO	PWB	SWB	WWB
OCBIc						
OCBIt	0.736					
OCBO	0.286	0.494				
PWB	0.315	0.447	0.254			
SWB	0.134	0.136	0.273	0.538		
WWB	0.165	0.228	0.309	0.287	0.343	

As shown in the Table 6.19, none of the HTMT ratios between the paired constructs are above 0.85, which indicates that the variables in this study are different from one another. Of note in Table 6.19, two HTMT ratios are above 0.5, which is still below the critical value of 0.85, but indicates a greater relatedness between the paired variables. For example, the HTMT ratio of PWB to SWB is above 0.5, which is supported in literature in which SWB and PWB constructs are related but distinct (e.g. Kashdan et al. 2008; Keyes & Annas, 2009). On the other hand, the |HTMT ratio of OCBIc to OCBIt is also

high, 0.736 (although, less than the critical value of 0.85). There are two explanations for this finding. First, most of the items to measure both OCB towards clients and OCB towards teammates were drawn from Williams & Andrews (1991) and Bettencourt et al.'s (2001) OCB measures, in which the respective items measured citizenship behaviours towards individuals; and second, it is due to the implied helping nature of the nurses and allied health professionals.

Next, the HTMT values are checked for significance by selecting 'Complete Bootstrapping' (unlike the Basic Bootstrapping) option in SmartPLS and running the bootstrapping by 'Confidence Intervals Bias Corrected' (Hair et al. 2017, p.130). The resulting confidence interval of HTMT values between constructs in the lower bounds (2.5%) and upper bounds (97.5%) must be below or equal to the value of 1. In this study, the confidence interval bias corrected HTMT are all below the value of 1. This is shown in the Table 6.19.1.

Table 6.19.1 Confidence Interval Bias Corrected

	Sample Mean	2.5%	97.5%
PWB ≥ OCBIc	0.305	0.110	0.378
PWB ≥ OCBIt	0.433	0.217	0.510
PWB ≥ OCBO	0.079	–0.140	0.213
SWB ≥ OCBIc	–0.108	–0.279	0.075
SWB ≥ OCBIt	–0.136	–0.342	0.019
SWB ≥ OCBO	–0.153	–0.046	0.271
WWB ≥ OCBIc	0.117	–0.062	0.244
WWB ≥ OCBIt	0.134	–0.009	0.254
WWB ≥ OCBO	0.237	0.047	0.376

As shown in Table 6.19.1 the values are less than 1, and therefore each of these variables are significantly different from one another and valid.

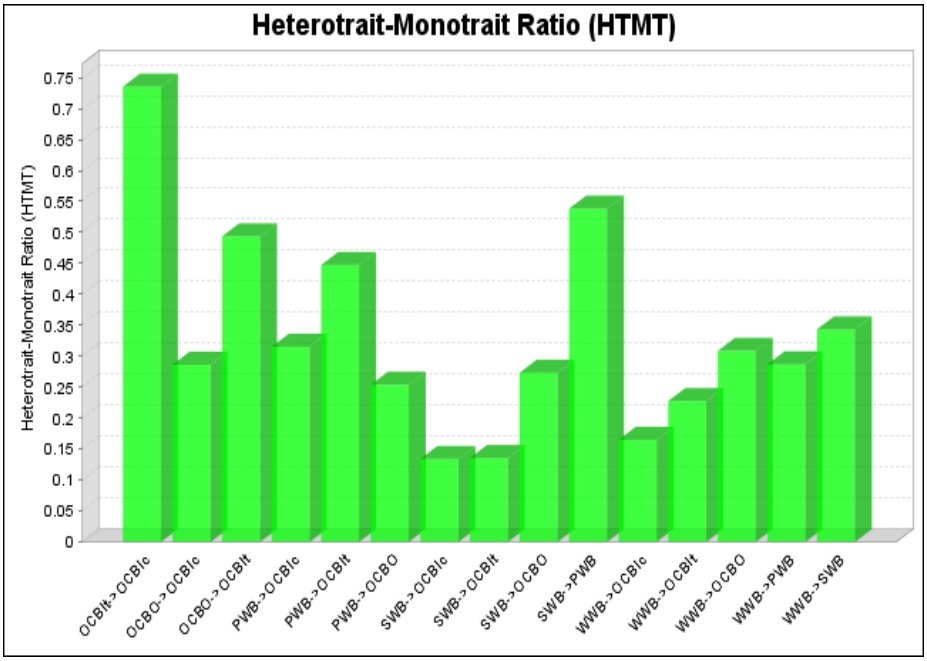


Figure 6.4 HTMT Ratio

As delineated above, the PLS-SEM analysis of the outer measurement model on the study variables were each confirmed to be reliable and valid measures.

6.5 Chapter summary

This chapter commenced with the preparation of the data for preliminary analyses. The gender and age profile of the sample was analysed. The chapter then presented the descriptive statistics of the measures and this was followed by an evaluation of the outer measurement models for confirmation and validation of its respective measures. All the exogenous measures of SWB, WWB, and WWB; and the endogenous measure of organizational citizenship behaviour towards client, teammates, and the organization were found to be reliable and valid. Chapter 7 continues with the PLS-SEM analysis of the inner structural model to explore the relationships and influence of the exogenous EWB variables on the endogenous OCB variables.

CHAPTER 7

STRUCTURAL MODEL ANALYSIS

7.1 Introductions

Chapter 6 provided a detailed evaluation of the outer measurement models using partial least square structural equation modelling (PLS-SEM). This chapter will use the PLS-SEM to look at the inner measurement model by examining the relationship, and predictive influence of the employee wellbeing (EWB) variables, i.e. psychological wellbeing (PWB), subjective wellbeing (SWB), and workplace wellbeing (WWB) on the organizational citizenship behaviour (OCB) of the health professionals towards clients (OCBIc), teammates (OCBIt), and the organization (OCBO).

Path coefficients were used to determine the relationships between each of the predictor latent EWB variables, and each of the criterion OCB variables; and *t*-statistics were used to assess the statistical significance of the relationships. The coefficients of determination (R^2) then show the total variance (that is, the predictive value of the exogenous wellbeing variables) in the endogenous citizenship behaviours. Next, the relative effect size (f^2) indicates which variable of EWB has the most effect on OCB towards clients, teammates, and the organization. Finally, the predictive relevance (Q^2) and its significance in the model (q^2), are analysed to determine whether the EWB and OCB constructs used in the predictive relationships are relevant and significant, respectively. The consequent results are used to accept or reject the proposed hypotheses of the main model by examining both the relationships, and the influence of the three independent variables of EWB on the three variables of OCB.

7.2 Structural model results

To extract the structural relationships between the criterion OCB constructs and its predictive EWB variables in this study, the following systematic approach to structural analysis in PLS-SEM (Hair et al. 2017) is taken to check:

1. Collinearity issues of the structural model.

2. The significance and relevance of the structural model relationships: (For this I will report on beta for path coefficients and then *t* statistics).

3. The level of R^2 (combines predictive value of endogenous variables or explains the variance in exogenous variables).

4. The predictive relevance Q^2.

5. The effect sizes f^2 (for the accuracy of the predictive value of endogenous variables).

6. Standardized root mean square residual (SRMR) for model fit.

The following PLS-SEM model of EWB variables influencing OCB dimensions explains the pathways between the exogenous and endogenous study variables.

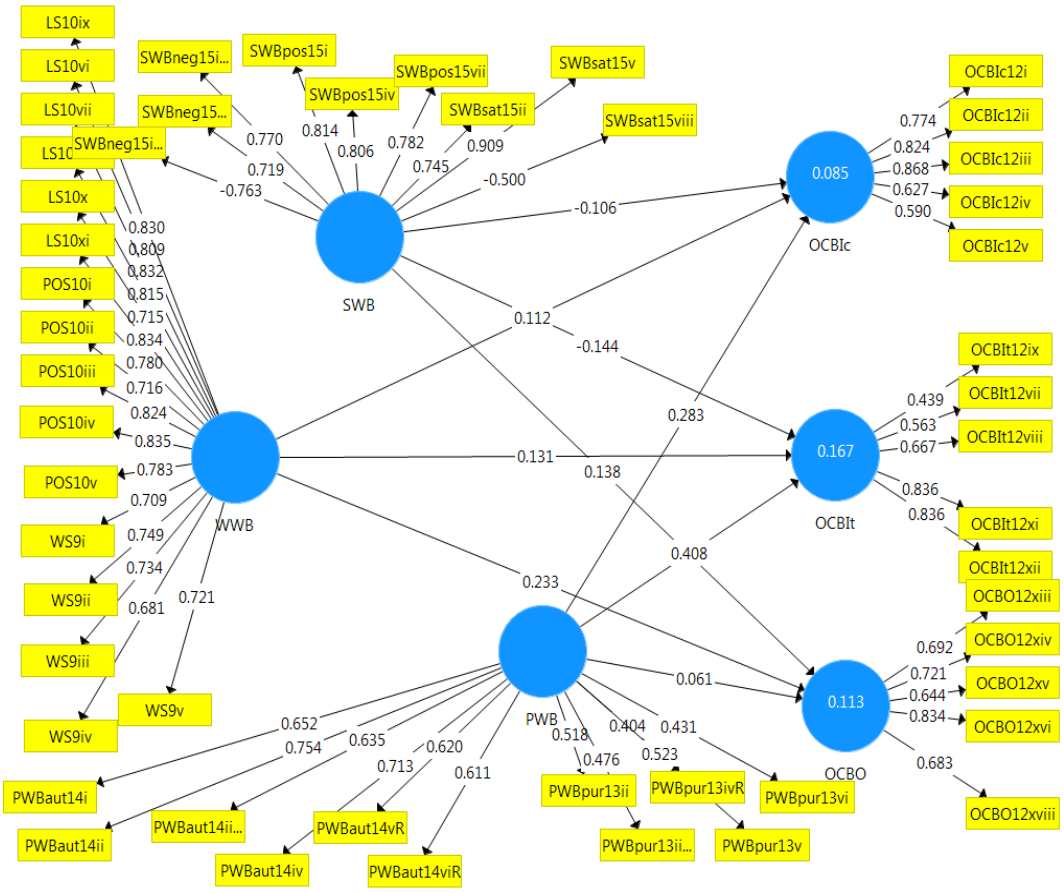


Figure 7.1 PLS-SEM analysis—EWB variables on OCBIc, OCBIt, and OCBO

7.2.1 Collinearity of the structural model

Collinearity arises when the correlations between constructs are high. If high, they can either be eliminated, transformed into a higher-order construct, or merged into a single construct to ensure a valid study. Hence, before conducting a structural analysis between the wellbeing and citizenship behaviour constructs, it is important to examine the collinearity between the criterion (citizenship behaviour) constructs and the predictor (wellbeing) constructs.

The collinearity issue of the constructs is assessed by validating the variance inflation factor (VIF) values, which should be less than 5 (equivalent to a tolerance value below

0.20) (Hair et al. 2017). The VIFs between the predictors, i.e. PWB, SWB and WWB, and the criterion variables OCB towards clients (OCBIc), teammates (OCBIt) and the organization (OCBO)) are shown in Table 7.1:

Table 7.1 Collinearity statistics of structural model (inner VIN)

Predictor Wellbeing Variables VIF values (Criterion: must be less than 5)	**OCBIc**	**OCBIt**	**OCBO**
PWB	1.248	1.248	1.248
SWB	1.323	1.323	1.323
WWB	1.139	1.139	1.139

All the VIFs are less than 5. Hence, no collinearity issues were present between the predictor and criterion constructs, and the relationships and predictive values in these constructs could therefore be calculated.

7.2.2 Significance of the relationships between employee wellbeing variables and OCB dimensions

The PLS algorithm calculation in SmartPLS provided path coefficients (along with the arrows); that is, the estimates for the hypothesized relationships between the exogenous wellbeing and the endogenous citizenship constructs in the structural model. The standard values for path coefficients are approximately between the bounds of +1 and –1. The estimates of path coefficients values close to +1 or –1 represent a strong positive or negative relationship respectively that is usually statistically significant (Hair et al. 2017), whereas a value near 0 represents weaker relationships. In this study, the path coefficients are represented by beta (β).

The strength of the relationship between the study constructs (path coefficients, at 5% PLS confidence level) are represented in the following figure:

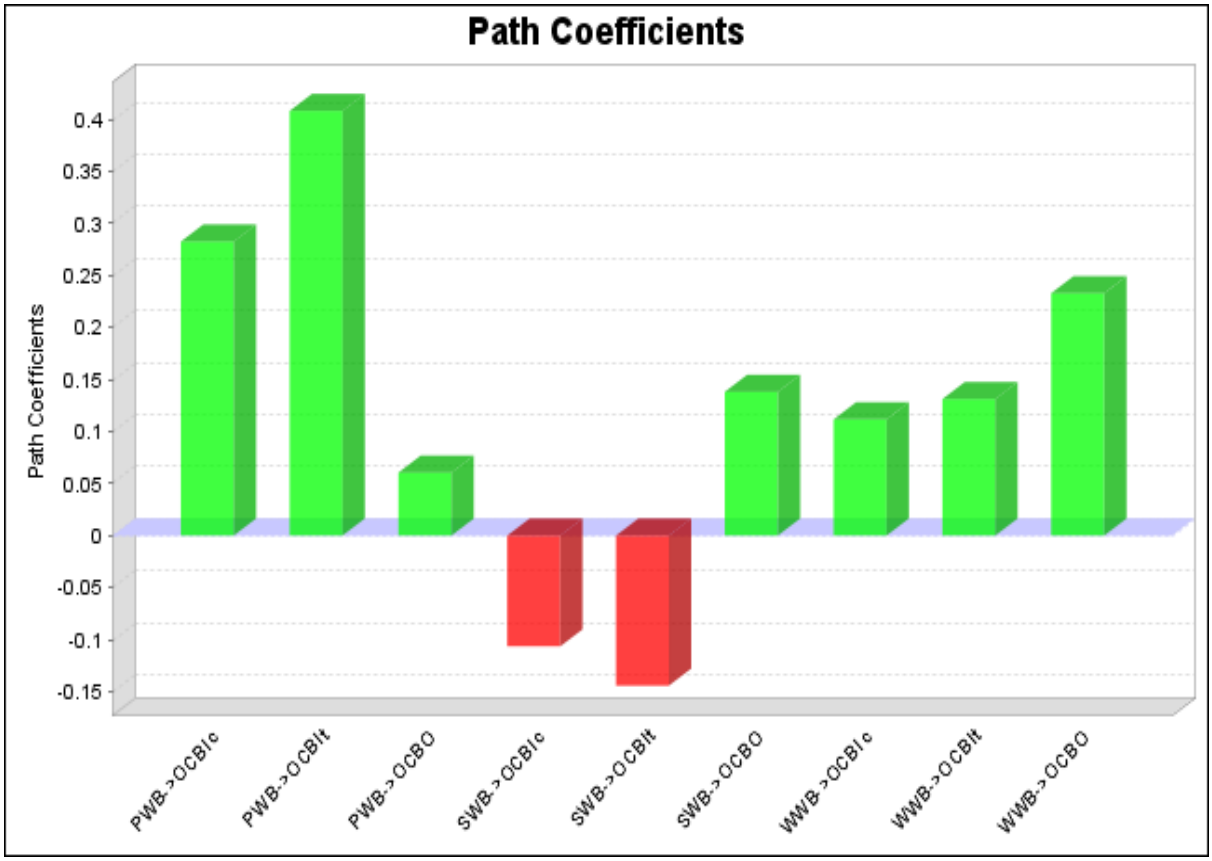


Figure 7.2 Path Coefficients

All the wellbeing constructs except two in this study were related positively to citizenship behaviours towards clients, teammates, and the organization. As indicated in Figure 7.2, SWB was negatively related to OCB towards clients and teammates.

The beta statistics indicated the strength of relationships between the exogenous independent wellbeing variables and the endogenous citizenship behaviours. However, to explore whether the relationships are statistically significant, the bootstrapping method was used to obtain the *t* statistics (significant magnitude) and its *p* values to indicate the probability of erroneously rejecting the null hypothesis.

Bootstrapping results in PLS-SEM reported the empirical *t* statistics (obtained by dividing path coefficient value by standard error) and *p* values (the probability of erroneously

rejecting the null hypothesis). These empirical *t* values were compared with the desired critical values to assess the significance of the relationships. Usually, these desired critical *t* values are 2.57, 1.96, and 1.65 for a significance level of 1%, 5%, and 10%, respectively (two-tailed tests).

In Table 7.3, the significance of the beta values is assessed against these *t* statistics and *p* values.

Table 7.3 Beta coefficients (*β*), *t* Statistics, *p* values, and Significance

Relationships	*β*	*t* Statistics	*p* values	Significance at Confidence Levels
PWB-OCBIc	0.283	4.411	<0.001	Significant at <0.01 confidence level; critical value 2.57
PWB-OCBIt	0.408	5.805	<0.001	Significant at <0.01 confidence level; critical value 2.57
PWB-OCBO	0.061	0.678	0.489	Not significant
SWB-OCBIc	–0.106	1.199	0.235	Not significant
SWB-OCBIt	–0.144	1.581	0.113	Not significant
SWB-OCBO	0.138	1.714	0.081 (10% confidence)	Significant at <0.1 confidence level; critical value 1.65
WWB-OCBIc	0.112	1.470	0.133	Not significant
WWB-OCBIt	0.131	1.970	0.044	Significant at <0.05 confidence level; critical value 1.96
WWB-OCBO	0.233	2.801	0.005	Significant at <0.01 confidence level; Critical value 2.57

Key: At 1%, 5%, and 10% level of confidence

From the above table, the significant relationships between the study variables were as follows:

SWB of health care nurses and allied health indicated weak insignificant relationships to OCB towards clients (OCBIc: $\beta = –0.106$; $p < 0.1$) and teammates (OCBIt; –0.144, $p < 0.1$). The 'feeling good' factor of wellness (SWB) of the nurses and allied health professions was, however, associated with 'walking the extra mile' for their organization

(OCBO; $\beta = 0.138$, $p < 0.1$). The results from testing the hypotheses (H1, H2, and H3) on the relationships between SWB and OCB dimensions are as follows:

H3. SWB is positively and significantly related to organizational citizenship towards the organization (OCBO).

However, the hypotheses (H1 and H2) are rejected for SWB citizenship behaviours of the nurses and allied health and are presented below:

H1. SWB is not significantly related to organizational citizenship towards clients.

H2. SWB is not significantly related to organizational citizenship towards teammates.

On the other hand, PWB of nurses and allied health professionals showed a positive relationship with citizenship behaviours towards clients (OCBIc), ($\beta = 0.283$, < 0.01) and a moderate relationship towards teammates (OCBIt; $\beta = 0.408$, $p < 0.01$). However, PWB had a very weak and insignificant relationship with OCBO. Hence, evaluating the hypotheses of the study between the PWB and OCB dimensions, H4 and H5 was accepted, whilst H6 is rejected as follows:

H4. Psychological Wellbeing (PWB) is positively and significantly related to organizational citizenship towards clients (OCBIc).

H5. Psychological Wellbeing (PWB) is positively and significantly related to organizational citizenship towards teammates (OCBIt).

However, *H6. Psychological Wellbeing (PWB) is positively related but did not significantly relate to organizational citizenship towards the organization (OCBO).*

As for the WWB–OCB relationship outcomes, WWB had positive and significant relationships to citizenship behaviours towards teammates ($\beta = 0.131$, $p < 0.05$) and the organization ($\beta = 0.233$, $p < 0.05$). However, WWB was not significantly associated with

OCBI towards clients ($\beta = 0.112$, $p < 0.1$). Hence, testing the hypotheses (H7, H8, and H9) on the relationships between WWB and OCB dimensions, the results showed that H8 and H9 were accepted, but H7 was rejected:

H7. WWB is positively but not significantly related to organizational citizenship towards clients (OCBIc).

H8. WWB is positively and significantly related to organizational citizenship towards teammates (OCBIt).

H9. WWB is positively and significantly related to organizational citizenship towards the organization, (OCBO).

Thus far the significance of the relationships between variables of EWB (SWB, PWB) and WWB and OCB towards individuals and the organization have been reported. Five (H3, H4, H5, H8 and H9) out of the thirteen hypotheses on relationships between the study variables have been accepted. These hypotheses also answer the first research question, RQ1. Is there a relationship between each aspect of the EWB construct and OCB towards clients, teammates, and the organization?

Section 7.2.3 examines whether the accepted relationships between the study variables indicated any effect values between the EWB construct, and the dimensional OCB, i.e. OCBIc, OCBIt, and OCBO. Statistics on the coefficients of determination are reported in Table 7.4.

7.2.3 Coefficients of determination (R^2 Values)

The coefficient of determination (R^2 value) characterizes the structural model's predictive accuracy. It is calculated as the squared correlation between a specific endogenous

construct's actual and influenced values (Hair et al., 2017; p. 198). The R^2 coefficient represents the combined effects of independent variables on the dependent variable; that is, it indicates the amount of variance in the endogenous construct explained by all the exogenous constructs linked to it (Hair et al., 2017). The value of R^2 value ranges from 0 to 1 and values near to 1 indicate high predictive accuracy. In organizational science the values of the values of $R^2$are often low, and the guidelines (e.g. Cohen, 1988, in Hair et al., 2017; Henseler et al., 2009) for assessing R^2 values in a multidimensional model are 0.02 for small, 0.15 for moderate, and 0.35 for large effects of the exogenous latent variables on endogenous variables.

When the coefficient of determination is modified according to the number of exogenous constructs relative to the sample size, it is referred to as the adjusted coefficient of determination (R^2 adjusted). Hair et al. (2017, p. 200) explains that 'The R^2 adjusted value reduces the R^2 value by the number of explaining constructs and the sample size, thus systematically compensating for adding nonsignificant exogenous that increases the explained variance'. Hence, the R^2 adjusted coefficient was used for comparing PLS-SEM results involving models with different numbers of exogenous latent variables and/or different sample sizes.

Further, following Hair et al. (2017), a dummy variable as a non-significant exogenous variable was created to test the increased effect of the EWB variables on OCB towards individuals and the organization. The PLS-SEM analysis revealed that with the dummy demographic variables, the size effects of the predictive EWB variables increased on citizenship behaviour towards clients (with dummy R^2 = 0.119; without dummy R^2 = 0.085); on teammates (with dummy R^2 = 0.188; without dummy R^2 = 0.167); and on the organization (with dummy R^2 = 0.126; without dummy R^2 = 0.113). Even though the

predictive value of EWB on the dimensional OCB increased, the level of influence did not change (for example, from weak to moderate or moderate to strong) to suggest stronger relationships between the study variables.

Because of their importance in the OCB literature (Ocampo et al. 2018), the individual demographic variables could have been examined individually, but this was not the objective and design of this study. Since the sample was gender biased (78% females) and nearly 50% of the sample represented psychologists, this study will be further explored by the researcher in the future to test the influence of its demographic characteristics as moderators the EWB–OCB relationship.

Table 7.4 shows the values of R^2 and R^2 adjusted.

Table 7.4 Coefficients of determination (R^2)

Predictive value of the EWB (SWB + PWB + WWB) on OCB variables as below	R^2	R^2 adjusted	**Critical values of R^2 (**Cohen,1988 in Hair et al. 2017)
OCBIc	0.085	0.071	Significant. 0.085 in the lowest acceptable range of 0.02 to 0.15 predictive value and signifies a low predictive value of on OCB towards clients.
OCBIt	0.167	0.154	Significant 0.167 falls within the moderate predictive value of 0.16 to 0.36 and signifies a moderate predictive value of the EWB on OCB towards mates.
OCBO	0.113	0.099	Significant 0.113 falls within the acceptable low predictive value of 0.02 to 0.15 and signifies a low predictive value of EWB on OCB towards the organization.

The R^2 values of the dependent variables OCBIc, OCBIt, and OCBO are 0.085, 0.167, and 0.113, respectively. This means that the wellbeing variables combined (PWB + SWB + WWB) explain only 8%, 17%, and 11% of OCB towards clients, teammates, and the organization, respectively. These figures show the relative influence of the EWB of nurses and allied health professionals on citizenship performances towards clients, teammates, and the organization, respectively.

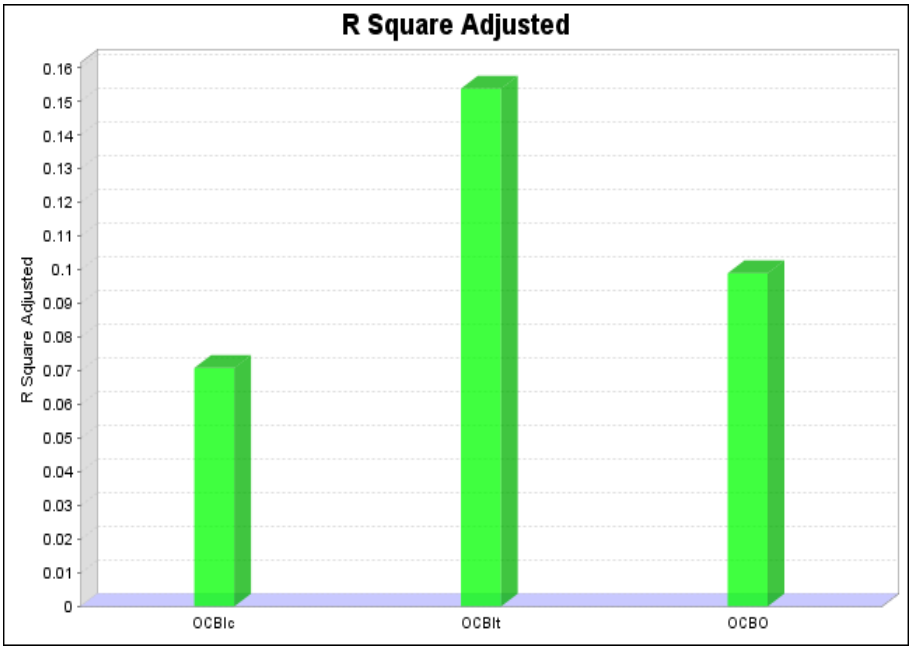


Figure 7.3 *R* Squared (R^2)

As shown in Figure 7.3, the exogenous variables of EWB (SWB, PWB, and WWB) influenced from highest to lowest, OCB towards teammates ($R^2 = 0.167$); OCB towards the organization ($R^2 = 0.113$); and OCB towards clients ($R^2 = 0.085$). This means that the EWB of nurses and allied health professionals influences 8% of their citizenship behaviours towards individual clients (OCBIc); 17% of their citizenship behaviours towards teammates, and 11 % of their citizenship behaviours towards the organization.

Hence, the model in this study validates the importance of EWB (represented by PWB + SWB + WWB) in influencing organizational citizenship behaviour towards clients (OCBIc), teammates (OCBIt), and the organization (OCBO). The predictive values are modest; nevertheless, as the citizenship behaviours are multidimensional and complex constructs, these values were deemed significant outcomes of the study.

Further, these predictive relationships of the study variables were evaluated against the predictive relevance and predictive accuracy add weight to the findings.

7.2.4 Predictive relevance Q^2

While the R^2 values denote predictive accuracy of the combined endogenous variables, the Q^2 values indicate the model's predictive relevance, called the 'Stone–Geisser Q^2 value (Geisser, 1974; Stone, 1974). It accurately influences data not used in the model estimation (the model's out-of-sample predictive power) and is obtained by using a blindfolding procedure that omits every *d*th. data point in the endogenous construct's indicators' (Henseler et al., 2009). Hair et al., (2017) states that,

> In the structural model, the Q^2 values larger than zero for a specific reflective endogenous latent variable indicate the path model's predictive relevance for a particular dependent construct (p. 202).

The effect size q^2 on the other hand, assesses the exogenous constructs contribution to an endogenous latent variable predictive relevance Q^2.

Table 7.5 indicates the predictive relevance (Q^2) of the endogenous variables, (OCBIc, OCBIt and, OCBO) and their predictive accuracy (q^2), which examines the effect size of the exogenous EWB variables on the dependent citizenship variables.

Table 7.5 On Predictive relevance, Q^2 and q^2

Relevance EWB (PWB+SWB+WWB)	Q^2	q^2	**Comment**
OCBIc	0.037	0.126	> 0, Relevant
OCBIt	0.063	0.096	> 0, Relevant
OCBO	0.045	0.117	> 0, Relevant

From Table 7.5, the predictive relevance of OCBIt (Q^2 = 0.063, q^2 = 0.096) is the strongest, followed by OCBO (Q^2 = 0.045, q^2 = 0.117); and finally, OCBIc **(**Q^2 = 0.037, q^2 = 0.126). The same standardized values are observed for q^2 (0.02, 0.15, and 0.35) as were observed for f^2. They represent small, medium, and large effects respectively (Cohen, 1988). As shown in Table 7.5, all the Q^2 are greater than zero and therefore indicate the path model's predictive relevance for the associated dependent variables. In terms of effect sizes of the predictive relevance, the effects of the exogenous EWB variables on endogenous citizenship behaviour constructs are small but significant, between 0.02 and 0.15 (Cohen, 1988).

Hence, after testing the hypothesis against the coefficients of determinations, predictive relevance (Q^2), and predictive accuracy (q^2), H10 was accepted.

H10. Employee wellbeing (EWB) influences organizational citizenship towards clients, teammates, and the organization.

Next, the extent to which each of the variables of EWB variable (SWB, PWB, and WWB) affected the criterion OCB variables was discerned. To do this, the effect size ($f^{2)}$ of each of the SWB, PWB, and WWB on their respective OCBIc, OCBIt, and OCBO is reported in Section 7.2.5.

7.2.5 Effect size (f^2)

The change in the value of R^2 when one of the exogenous constructs (either PWB, SWB, or WWB) is omitted from the model to evaluate its influence on the endogenous (in this study, the specific OCB) constructs (Hair et al., 2014, p. 177) is referred to as the effect size or f^2.

Effect Size can be calculated as

$$f^2 = (R^2 \text{ included } R^2 \text{ excluded})/ (1 \ R^2 \text{ included}).$$

$$f^2 = \frac{R^2_{\text{included}} - R^2_{\text{excluded}}}{1 - R^2_{\text{included}}}.$$

In this study the R^2 excluded was calculated where a selected exogenous latent variable (SWB, PWB, or WWB) was excluded from the model. Comparing the change in R^2 when the exogenous variable was excluded indicated whether its presence or absence made any difference to the variance of the endogenous variable. Guidelines for assessing f^2 values are 0.02 for small, 0.15 for moderate, and 0.35 for large effects of the exogenous latent variables (Cohen, 1988, in Hair et al., 2017, p. 201)

Table 7.6 f^2

f^2: Relevance of the study—influence of the exogenous wellbeing on the endogenous OCB criterion variables	**OCBIc**	**OCBIt***	**OCBO***
PWB	**0.070**	**0.160**	**0.003**
SWB	**0.009**	**0.019 (0.02)**	**0.016 (0.02)**
WWB	**0.012**	**0.018 (0.02)**	**0.054**

7.2.5.1 Interpretation of f^2

As mentioned above, for assessing the f^2, the critical values 0.02, 0.15, and 0.35 represent small, medium, and large effects (Cohen, 1988 in Hair et al. 2017) of the exogenous latent variable on the specific criterion or endogenous variable. As shown in Table 7.6, the PWB construct had a significant moderate effect size on the OCBs towards teammates (0.16), a small effect on the organizational behaviours towards clients (0.07), and no effect on

the OCB towards the organization (0.003). On the other hand, the SWB construct only showed a small effect size on the OCBIt (0.02) and OCBO (0.02). The effect size of WWB on both OCBIt (0.018 or 0.02) and OCBO (0.054) were small but significant.

Hence, after testing the effect size of each of the wellbeing variables of EWB on OCB towards individuals and the organization, parts of the hypotheses H11, H12, and H13 are accepted, as below:

H11. SWB influences organizational citizenship towards the organizations but does not influence OCB towards clients and teammates.

H12. PWB influences organizational citizenship towards clients and teammates but does not influence OCB towards the organization.

H13. WWB influences organizational citizenship towards teammates and the organization but does not influence OCBs towards clients.

The hypotheses that have been accepted are H10, H11, H12, and H13, and therefore provide answers to the research questions RQ2, RQ3, RQ4, and RQ5, which are:

RQ2. Does EWB influence OCB towards clients, teammates, and the organization?

RQ3. Does SWB influence OCB towards clients, teammates, and the organization?

RQ4. Does PWB influence OCB towards clients, teammates, and the organization?

RQ5. Does WWB influence OCB towards clients, teammates, and the organization?

Whilst the research question RQ2 and hypothesis H10 were confirmed by the predictive value R^2), the respective research questions and hypotheses RQ3 and H11; RQ4 and H12; and RQ5 and H13 were confirmed by the effect sizes (f^2) and its significance values.

7.2.6 Standardized Root Mean Square Residual (SRMR)

Henseler and Sarstedt (2014) introduced the SRMR as a goodness of fit measure for PLS-SEM. The SRMR is the root mean square difference between the observed correlation and the influenced correlation. It is used to assess the average magnitude of the discrepancies between observed correlations and expected or model-implied correlations as an absolute measure of (model) fit criteria. Values less than 0.08 are considered a good fit for CB-SEM, but this threshold is too low for PLS-SEM (Henseler et al., 2014, in Hair et al., 2017, p. 193). The PLS bootstrapping procedure in the SmartPLS program provided the following SRMR value for a saturated model of 0.097 in this study, which is within the stipulated criterion SRMR value of 0.1 in the estimated model (Hair et al. 2017).

Table 7.7 Model Fit (SRMR)

Model Fit	**Saturated Model**	**Estimated Model**
SRMR	0.097	0.104

Since there is too little in the literature about the measure of SRMR in identifying model misspecifications, Hair et al. (2017, p. 194) advise against the routine use of such statistics in the context of PLS-SEM (p. 194).

The outcomes of the structural analysis of this study in PLS-SEM are summarized in Table 7.8.

Table 7.8 Summary of the study results and significant hypotheses

Hypotheses: Main Model	**Beta (*β*)**	***t* stats, *p***	**R^2, f^2**	**Q^2, q^2**	**Significant/ Non-significant**
PWB-OCBIc	0.283	4.41[(a)]	0.085, 0.07	OCBIc 0.037; 0.126	Significant
PWB-OCBIt	0.408	5.81[(a)]	0.167, 0.16	OCBIt 0.063, 0.096	Significant
PWB-OCBO	0.061	0.678 n/s	0.113, 0.003	OCBO 0.045; 0.117	n/s
SWB-OCBIc	–0.106	1.19 n/s	0.085, 0.009		n/s
SWB-OCBIt	–0.144	1.58 n/s	0.167, 0.02		n/s *t* stat but significant predictive R^2 and effect size
SWB-OCBO	0.138	1.71 [(c)]	0.113, 0.02		Significant
WWB-OCBIc	0.112	1.47 n/s	0.085, 0.012		n/s
WWB-OCBIt	0.131	1.97 [(b)]	0.167, 0.02		Significant
WWB-OCBO	0.233	2.80 [(b)]	0.113, 0.05		Significant

Key: Significance levels: (a) $p < 0.01$; (b) $p < 0.05$; (c) $p < 0.1$; n/s = non-significant.

7.3 Chapter summary

This chapter reported on the results of the structural (inner) model in partial least square structural equation modelling on the relative path relationships and predictive variance of SWB, PWB, and WWB on citizenship performances of nurses and allied health professionals towards clients, teammates, and the organization. EWB in this study

affected citizenship behaviours towards clients, teammates, and the organization. Of the thirteen hypotheses, nine hypotheses were confirmed. Specifically, SWB influenced OCB towards the organization, whilst PWB influenced citizenship behaviours towards both clients and teammates; Finally, WWB influenced organizational citizenship performance both towards teammates and the organization. The predictive variance within the accepted hypotheses is small to moderate, but significant.

Chapter 8 expands on these results, with insights from past research and comments on the contributions of this study to the theory of wellbeing and citizenship behaviours of nurses and allied health professionals in Australia. Finally, the chapter will comment on the possible implications of the study for the practice in the health profession.

CHAPTER 8

DISCUSSION, CONTRIBUTION, AND IMPLICATIONS

8.1 Introduction

Chapter 7 empirically tested the presence of positive relationships and predictive associations between employee wellbeing (EWB) variables, i.e. subjective wellbeing (SWB), psychological wellbeing (PWB), and workplace wellbeing (WWB), organizational citizenship behaviours towards clients (OCBIc), teammates (OCBIt), and the organization (OCBO). The results showed that the predictive variances and effect sizes in the organizational citizenship behaviours (OCB) towards OCBIc, OCBIt, and OCBO were explained by the associated EWB variables. Nine out of thirteen hypotheses were accepted.

This chapter discusses the results of the EWB, OCBI, and OCBO model in the context of the five research questions, and the hypotheses accepted or rejected in the study. In doing so, it refers to the relevant literature and the theoretical underpinnings described in this study. Following the discussion, a detailed description of the theoretical, methodological, and practical contributions of this study are provided.

8.2 Discussion of the EWB-OCBIc, OCBIt, and OCBO model

In this study, a model of the relationship, and the relative influence of EWB on OCB was developed. The exogenous EWB variables comprised SWB, PWB and WWB, while the endogenous OCB variables consisted of three variables of OCB— OCB

towards clients (OCBIc), OCB towards teammates (OCBIt), and OCB towards the organization (OCBO). The research questions asked in this study were:

RQ1. Is there a relationship between each aspect of the EWB construct and OCB towards clients, teammates, and the organization?

RQ2. Does EWB influence OCB towards clients, teammates, and the organization?

RQ3. Does SWB influence OCB towards clients, teammates, and the organization?

RQ4. Does PWB influence OCB towards clients, teammates, and the organization?

RQ5. Does WWB influence OCB towards clients, teammates, and the organization?

In line with these research questions, the study hypotheses are systematically discussed under the following sections:

1. SWB and OCB towards clients (OCBIc), teammates (OCBIt), and the organization (OCBO).
2. PWB and OCB towards clients (OCBIc), teammates (OCBIt), and the organization (OCBO).
3. WWB and OCB towards clients (OCBIc), teammates (OCBIt), and the organization (OCBO).
4. EWB and OCB towards clients (OCBIc), teammates (OCBIt), and the organization (OCBO).

8.2.1 SWB and OCB towards clients (OCBIc), teammates (OCBIt), and organization (OCBO)

This study found that for nurses and allied health professionals SWB is significantly associated with OCB towards the organization (OCBO) ($\beta = 0.138$, $p \leq 0.1$). However, SWB is not significantly associated with OCB towards clients or OCB towards

teammates. In comparison, Halbesleben et al.'s (2011) study found psychologically depleted employees engage in helping behaviours towards co-workers (OCBI) either to return a favour or in the likelihood of having a favour returned in times of need; but employees did not engage in organizational citizenship behaviour towards the organization (OCBO), or even in their in-role tasks. However, Halbesleben et al.'s (2011) study, combined a between-person and within-person research design to examine the relationship between employees' daily fluctuations in exhaustion levels (an indicator of wellbeing) and performance (that included both OCB and task performance) across several industries. Therefore, whilst the design of this study was different from Halbesleben et al.'s (2011), the results in this study on SWB-OCBIc associations, may have been influenced by the specific inclinations, preferences, and motivations for OCB that are unique to those health professionals who need to work collaboratively in a team (Feather et al., 2018) but who report low levels of job satisfaction (Dilig-Riuz et al., 2018). In the light of this literature (Feather et al., 2018; Dilig-Riuz et al., 2018), the findings of this study, therefore, suggest that a similar study should be undertaken with a larger population of Australian nurses and allied health professionals using a mixed-design research similar to that of Halbesleben et al. (2011).

Further, the findings of this study on SWB-OCBI (towards clients, and teammates) and SWB-OCBO partly resonate with Gore et al.'s (2014) study, which found that both positive emotion and life-satisfaction (which are dimensions of SWB) have influenced individual-focused 'consideration for others', organization-focused 'civic virtue' and 'conscientiousness' respectively. Gore et al. also found that negative affect of employees effected the 'conscientiousness' and 'sportsmanship' type of organization-focused OCB.

Whereas this study, like that of Gore et al. (2014), did not examine these specific variables of SWB to OCB, it at least indicates that SWB is related significantly to OCBO.

Further, the outcome that the SWB of the participating nurses and allied health professionals related significantly with OCBO can be explained from the theoretical underpinnings (Chapter 2) used in this study. For example, from the perspective of the B&B theory (Fredrickson,1998), high levels of positive emotions will trigger positive cognitive, emotional, and behavioural collections of psychological resources, including OCB (Fredrickson & Branigan, 2005). The means of SWB, and its constituent positive emotions are high in this study (Table 6.6), which therefore is in line with the B&B theory, and may explain why nurses and allied health professionals invested in OCB towards their organization. Moreover, based on Hobfoll's (1989) COR theory, the reported higher average SWB in this study may imply that these available psycho-social resources were used to expend in OCBO when needed. Since allied health professionals and nurses are likely to work in clinically uncertain and stressful climates (Utriainen et al., 2015), OCBOs such as 'sportsmanship and civic virtue are valuable discretionary efforts in such assumed demanding and challenging work climate. Future studies can be designed to explore this underlying mechanism of COR to examine how SWB determines OCBs in challenging times.

The finding in this study that SWB was not significantly associated with OCBIc or OCBIt are divergent from Gore et al. (2014), and from other studies in the literature that have positively linked SWB to OCB. For instance, George (1991) indicated positive mood is associated with prosocial behaviours such as altruism and customer service, whilst Staw et al. (1994) indicated positive affect positively influenced OCB. Moreover, Alessandri

et al. (2012) reported that SWB measured by an individual's positive orientation (composed of discrete positive emotions, such as self-esteem, life satisfaction, and optimism) influenced OCB more than did the individual effects of positive affectivity and the big five personality traits. Some studies have found contrasting evidence that SWB, measured as both positive and negative affectivity, is related to service-oriented citizenship behaviours (Jain et al. 2009). Other specific studies in the literature (such as Tsai & Wu, 2010; Zelenski et al., 2008) have also shown positive associations between SWB and OCB.

One of the reasons for this negative outcome between SWB and OCB towards clients and teammates could have been factors such as job stress (Dilig-Ruiz et al., 2018) which was not explored in this study. Further, though in the literature low levels of satisfaction (SWB at work) are reported by health professionals across the globe (Dilig-Ruiz et al., 2018; Lambert, 2010; Lambert et al., 2018; Piero et al., 2019), in this study SWB in life was reported to be high . Hence, though low levels of SWB are linked to reduced OCB (e.g. Chiu & Chen, 2005), in this study low levels of SWB were reported by some of the nurses and allied health professions in this study (for example, a minimum score of SWB = 1.63 on a five-point Likert scale), but the mean for SWB and all its respective variables (for instance, positive affect) for all 201 sample participants was above average. That SWB was not related to OCBI towards clients and teammates in this study may be related to the presence of other correlates of OCB, such as procedural justice and transformation leadership, which were not examined in this study (e.g. Zeinabadi & Salehi, 2011; Lee et al., 2014). On the other hand, these results may be related to the demographic bias of the study sample, in which the majority participants were young female health professionals in which almost half of the sample were psychologists, and who had worked for five years

or less. Future robust studies on the model with such moderators are therefore indicated by these results.

The results in this study indicated weak associations and variances between SWB and OCB towards individuals and the organization. This could also be related to the culture of a country. For example, a meta-analysis by Avey et al. (2011) on US-based and non-US-based studies showed weaker relationships between psychological capital (PsyCap) — a composition of emotions such as hope, efficacy, resilience, and optimism—and OCB in Australia, China, and India compared with the US-based samples (p. 146). In another cross-country study, Delle Fave et al. (2011) showed that though Australian participants (n = 99) reported above average levels for both SWB and PWB, compared with other nations their average for PWB (represented by meaning) was higher than SWB (measured by life satisfaction). Future research on the relationship between EWB and OCB should, therefore, investigate the role of intracultural differences within multicultural Australia, as well as intercultural differences between nations.

In this study SWB was examined as a composite of life satisfaction, positive emotions, and negative emotions. However, if each variable had been estimated in the study, its relative influence on the dimensional OCB may have provided more specific and useful insights. The means of each of the three SWB composites were high (Table 6.6), but their individual associations with OCB towards individuals and the organization were not examined. Indeed, Diener et al. (2017) recommended testing each of the individual variables of SWB for its nature, antecedents, and consequences. They stated that, ‘facets of SWB are separable in factor analyses and have distinctive associations with other variables. Thus, they should be assessed individually’ (p. 87). Hence, future studies could

extract the common and unique variances of SWB variables in both OCBI and OCBO to provide clearer outcomes, explanations, and implications for its theory and practice.

Since OCB show positive individual-level, unit-level, and organizational-level outcomes (Podsakoff et al., 2009, 2014), the modest findings of this study on SWB-OCB suggest that practitioners should monitor, maintain, and augment the SWB of their frontline health professionals (Johnson et al., 2018) in order to ensure their consistent engagement in OCB. This, in turn, will optimize the quality of patient care and safety (Feather et al., 2018) within the health industry.

8.2.2 PWB and OCBI towards client (OCBIc), teammates (OCBIt), and the organization (OCBO)

In this study, PWB significantly influenced OCB towards clients ($\beta = 0.283$, $p \leq 0.01$) and OCB towards teammates ($\beta = 4.08$; $p \leq 0.01$). However, no studies to date have examined the association and predictive value of PWB specifically on OCB towards individuals and the organization. A recent research on the happy-productive thesis by Piero et al. (2019) showed the influence of eudemonic PWB (Ryff, 1989) and hedonic SWB on work performance—which includes OCB, deviant behaviours, and task performance (Koopmans et al., 2011, in Piero et al., 2019). Though, the study by Piero et al. (2019) was not a direct study of PWB on the OCBI- OCBO framework per se, it indicated the presence of a positive relationship between PWB and work performance that involved OCB. It, therefore, indicated potential support for the outcome of this study, which showed PWB (autonomy and purpose in life) was significantly related to OCB towards clients and teammates. Earlier, Roche & Haar (2013) indicated that satisfaction

of psychological needs of autonomy, competence, and relatedness lead to high engagement of OCB.

Further, the findings of this study on PWB-OCB dimensions can be explained by the underpinning psychological mechanisms of B&B theory, COR theory and SET. According to the B&B theory (Fredrickson, 1998), psychological processes, such as autonomy or purpose in life, can be promoted by positive emotions, which further drives positive volunteer behaviours towards clients and teammates. Since, in the literature, SWB and PWB are related (e.g. Keyes et al. 2002), these experiential (SWB) and functioning (PWB) wellbeing factors will create a drive for positive work performance such as OCB. Support for this explanation can also be drawn from Forgas et al.'s (1984) study, which showed that mood affects social interactions; and from George & Brief's (1991) study, which revealed that 'feeling' good, leads one to 'doing' good, which meant feeling positive leads to enhanced performance that include OCB. Hence, the B&B theory (Fredrickson, 1998) along with other empirical studies (Forgas et al., 1984; George & Brief, 1991) explain the significant relationship between PWB and OCBI towards clients and teammates.

In the literature, the presence of autonomy, and purpose or meaningfulness are linked to health professionals' wellbeing. For example, Utriainen et al. (2015) found that meaningful and challenging work, freedom to express diverse feelings in the work community, fair and supportive leadership, assistance and support among nurses, and nurses' togetherness and cooperation are significantly related to wellness of nurses. The study by Utriainen et al. (2015) lends support to the finding of this study that PWB positively affected OCBI towards clients and teammates. Further, in line with the COR

theory (1989), the outcome of this study implies that the need for fulfilment of autonomy and purpose in life in nurses and/or allied health professionals motivates them to put these PWB resources into collaborative citizenship behaviours. One example of such collaborative and cooperative OCBI towards co-workers is the act of helping a teammate move a heavy patient to another bed in a hospital, a task that, without the assistance of a colleague, would otherwise obstruct the smooth running of the hospital. Since the theory of COR contends that psychological resources are conserved for problems and problem-solving, it explains the finding of the study, that PWB is related and affects OCBI towards clients and teammates.

Finally, from the viewpoint of social exchange theory (SET) (Blau, 1964), the experience of fulfilment of psychological needs such as autonomy, means that health professionals are able to make skill-based decisions in patient care without being micromanaged. This in turn can lead to the health professional's feeling respected and feeling equitably treated at work. Being able to care for one's clients can further fulfil the functioning need for purpose in life in the health worker who may then want to reciprocate positively at work by engaging in proactive citizenship behaviours. Hence, in such SET (Blau, 1964) explains why nurses and allied health professionals in this study engaged in OCBI towards clients and co-workers.

On the other hand, in this study, PWB did not predict OCB towards the organization (β = 0.061; ≤ 0.01). This outcome may have been influenced by the selection of autonomy and purpose in life as dimensions of PWB (Ryff, 1989), which are indicated in literature (e.g. Utriainen et al., 2015) as significant factors that determine effective nursing. Health professionals must directly serve their patients, and this gives them purpose, as does the

need to make autonomous clinical decisions. Further, for health professionals to perform efficiently, they need to work in collaboration with their co-workers or teammates (Hyde et al., 2013; Feather et al., 2018). Hence, literature explains why the dimensions of purpose in life, and autonomy selected in this study relate to OCBIc and OCBIt, but not OCBO. Perhaps, if this study had selected other dimensions of PWB (Ryff, 1989), such as environmental mastery or personal growth, then the results may have been different.

In this study SWB related to OCBO, and PWB related more to OCBI. Support for this outcome can be somewhat drawn from Kumar et al.'s (2016) study, which unlike this study though, had OCBI and OCBO as the predictors of wellbeing variables; and further, the measures of SWB and PWB were different. For example, in their study, Kumar et al. (2016) pointed out that OCBI is positively related to the eudemonic PWB factor of 'relatedness', whilst OCBO is positively related to the SWB factor of 'psychological health' - defined as 'behaviours, attitudes and feelings that represent an individual's level of personal effectiveness, success, and satisfaction' (p. 597).

8.2.3 WWB and OCBI towards client (OCBIc), teammates (OCBIt), and the organization (OCBO)

In this study, the relationship between WWB and OCB towards teammates ($\beta = 0.131$; $p \leq 0.05$) and the organization ($\beta = 0.233$; $p \leq 0.05$) are each significant. Indeed, the literature indicates that WWB measured by job satisfaction and positive affect at work has represented workplace happiness (Fisher, 2010; Wright, 2010) and has been positively associated with OCB (Chiu & Chen, 2005; Lambert et al., 2018; Zeinabadi & Salehi, 2011; Hosie et al., 2012). As such, Hosie et al. (2012) found that job satisfaction

and emotional state of managers both related to ‘contextual performance’, which is another similar term as OCB (Borman & Motowidlo, 1997; Organ, 2006). Further, Zelenski et al. (2008) found that both SWB (measured by life satisfaction and positive and negative affect) and WWB (measured by job satisfaction) related to higher levels of performance involving OCB (Koopmans et al., 2011). The study by Zelenski et al. (2008) also showed a positive link between SWB and WWB. Moreover, Tsai & Wu (2010) found that job satisfaction had a positive relationship to OCB (and a negative correlation with turnover) of nurses.

In the literature, job satisfaction is the most popular and common measure of WWB (Ocampo et al., 2018). Even though Dilig-Ruiz e al. (2018) and other scholars have more recently associated job satisfaction with other hedonic SWB and eudemonic PWB factors at work, (such as job stress and autonomy), the relationship of such WWB measures to OCB was not identified in the literature review of this study. The WWB (Parker & Hyett, 2011) variable examined in this study incorporated both the hedonic SWB and eudemonic PWB factors at work; and hence, to the knowledge of the researcher, the outcome of this study that WWB related positively to OCBIt and OCBO, is a new contribution to the WWB-OCB literature. Further, examinations of such relationships for validity are recommended for future study.

In this study it was found that WWB did not relate significantly with OCB towards client ($\beta = 0.112$; $p \leq 0.05$). This finding may be related to the response patterns of the health professionals in the sample on some factors of WWB (Parker & Hyett, 2011) and OCBIc. For example, it may be appropriate to mention that when the researcher was cleansing the data for analysis, and going through individual responses of participants on the survey,

she noticed that some participating nurses and allied health professionals reported lower scores on items of WWB that measured ‘employer care’ (which appeared to test the employee’s perceived support for the leader) and on ‘organizational respect for the employee’(which appeared to test the employee’s-trust in the organization). At the same time, these participants also scored low on the individual items of OCBIc. This observation tentatively suggests that these WWB factors may have had a significant effect on the health professional’s willingness to expend OCBI towards clients. Recently, Yong et al. (2019) reported supervisor’s support for employee’s autonomy influenced the worker’s wellbeing, stress, and performance. However, Yong et al.’s research was on low skilled employees, whilst this Ph.D. study is on the high skilled health professionals who may have a high requirement of such psychological needs fulfillment for effective functioning at work. Further, the individual factors (or their unique variances) of WWB (Parke & Hyett, 2011) were not studied in relation to OCBI and OCBO, and this idea may be the subject of future research.

Moreover, the finding that the participating health professionals’ WWB was not related to OCBI towards clients significantly in this study may also be related to low job satisfaction, burnout, and job stress which are common in this profession (Dilig-Ruiz et al., 2018; Feather et al., 2018). It is also related to one’s environment, role, and relations within the workplace (Zeller & Levin, 2013). For instance, Laschinger (2007) found that nurse managers reported work stress when they had too much responsibility, and this affected their job satisfaction. On the other hand, burnout is adversely related to OCB (e.g. Chiu & Tsai, 2006; Baranik et al., 2016).

Hence, it could be that the WWB of nurses and allied health professionals in this study may have been influenced by work stress, or burnout, which resulted in the lack of psycho-social resources to spend on OCB towards clients. The inclusion of such depleting wellbeing factors (or illbeing) as moderators and mediators in future studies on WWB-OCB may throw further light in further studies. In addition, another important moderator in the relationship between WWB and OCBI towards clients, is the shortage of health professionals as reported in recent literature on nurses (Feather et al., 2018) and similarly in the Australian Health Work Force data in 2017 (see Appendix F).

8.2.4 EWB, and OCBI towards client (OCBIc), teammates (OCBIt), and the organization (OCBO)

In this study EWB (defined as SWB + PWB + WWB) influenced OCB towards clients (R^2 = 0.85, R^2 adj. = 0.071), OCB towards teammates (R^2 = 0.167, R^2 adj. = 0.154) and OCB towards the organization (R^2 = 0.113, R^2 adj. = 0.099). These findings indicated a small but significant predictive value of EWB on OCBIc, and OCBO, whilst the predictive value of EWB on OCBIt was moderate, and significant. Further, the predictive relevance of the EWB variables was greatest for OCBIt (Q^2 = 0.063, q^2 = 0.096), followed by OCBO (Q^2 = 0.045 q^2 = 0.117), and OCBIc (Q^2 = 0.037, q^2 = 0.126).

More specifically, in this study EWB explained 8% of the influence on OCBIc, 16% of the predictive variance on OCBIt, and 11% of the predictive variance on OCBO. Though the predictive variances of EWB in OCBIc, OCBIt, and OCBO in this study ranged from small to moderate, they are significant. In the literature, small predictive variance in psycho-social studies are meaningful (Moksony, 1990). Such small but meaningful

predictive variances of hedonic wellbeing on OCB are usually reported in the management literature.

For example, though Dalal et al. (2012) did not examine as many employee wellbeing variables as in this study, nevertheless they found that 14% of variance in OCB was explained by job satisfaction, 12% variance in OCB was explained by the trait positive affect of SWB, and a further 8% variance in OCB was explained by the trait negative affect of SWB. The reported variances in Dalal et al.'s study (2012) and in management sciences are small, but significant and valid, as is the case in this study. On the other hand, the significant small to moderate variances in this study may suggest the need for other variables in the model to enhance its explanatory power. However, as Hair et al. (2017) indicate, more exogenous variables may not always indicate better results (just because R^2 may increase), as more variables and pathways will also increase the probability of errors.

Nevertheless, the findings in this study suggest the relative importance of the EWB variables, SWB, PWB, and WWB, as predictors of OCBIc, OCBIt and OCBO. This study, therefore, validates the modified framework of EWB as proposed by Page & Vella-Brodrick (2009), and further establishes that EWB consists of more than job satisfaction, and that scholars must explore the broader definition and nature of employee wellbeing to this end. Indeed, more such studies must explore the influence of this EWB framework (SWB, PWB, and WWB) on OCBIc, OCBIt and OCBO for validity.

Specifically, in this study, the relative influence of the PWB variable of EWB was strongest and significant on OCBIt ($f^2 = 0.160$), followed by a significant influence on

OCBIc ($f^2 = 0.07$); but there was no significant influence of the PWB variable on OCBO ($f^2 = 0.003$). The relative influence of the SWB variable on OCBIc was not significant ($f^2 = 0.009$); but significant on OCBIt ($f^2 = 0.019$); and OCBO ($f^2 = 0.016$). Moreover, the relative influences of WWB on OCBIt ($f^2 = 0.018$) and OCBO ($f^2 = 0.054$) were significant, but not significant towards clients. Further, the relative influence of SWB, PWB, and WWB on OCBIc, OCBIt, and OCBO, establishes these OCB variables as independent variables, and also validates the independence of their respective EWB predictors, as discussed in Chapter 3.

An empirical study by Piero et al. (2019) implies some support to the findings of this study on the relative influence of SWB, and PWB on OCB, respectively. Piero et al. (2019) studied the relationship between both high and low levels of hedonic SWB, and eudemonic PWB, on productive/unproductive performance of a very large sample of employees ($n = 1647$) in Spain; and found four clusters of results: happy-productive, unhappy-unproductive, happy-unproductive, and unhappy-productive workers. Whereas this study used the dimensions of autonomy and purpose in life to define PWB (Ryff, 1989), Piero et al. (2019) used the two dimensions, personal growth' and 'purpose in life' (Ryff, 1989) to define their PWB construct. Further, in contrast to Piero et al. (2019), this study explored a linear relationship (not clusters of workers) and the relative influence of SWB, PWB, and WWB on OCB towards individuals and the organization. Further research is therefore recommended to validate the EWB-OCB model of this study on a larger scale, and, as Piero et al. (2019) has done, to explore both synergistic and antagonistic relationships between the study variables.

Kumar et al. (2016) recently examined the correlations between EWB, OCBI and OCBO and found that OCBI was positively related to the PWB dimension of relatedness, and OCBO was related to SWB in life (or psychological health). In contrast to the findings of Kumar et al.'s (2016) study, the SEM-PLS results of this study indicated a unidirectional influence of PWB on OCBI (both towards clients and teammates), whilst SWB effected OCBO. Although the compositions of SWB and PWB in this study were different from those of Kumar et al. (2016), as were the exogenous-endogenous direction of study variables and as was the statistical approach; Kumar et al.'s study lends support to the notion that PWB may be a stronger correlate of OCBI than is SWB. In addition, SWB may be a stronger correlate of OCBO than is PWB. Longitudinal research designed to collect data over different time-periods and from different sources are suggested to validate such research indications.

The relative influence of WWB variable of EWB on OCBIc was not significant (f^2 = 0.012) in this study. However, Kim et al. (2006) showed that affective commitment (a type of organizational commitment) positively related to altruism and compliance types of OCB, whereas job satisfaction was related to, but did not have any direct effect on, OCB. In Kim's (2006) study, both affective commitment and job satisfaction did not show predictive variance on OCB.

In this study the WWB variable of EWB significantly influenced both, OCBIt, and OCBO, respectively. Earlier, a study on nurses by Altuntas et al. (2010) showed that trust has a positive influence on conscientiousness, civic virtue, altruism, and courtesy. The study therefore indicated that trust, an aspect of WWB, influenced both OCBI and OCBO (Williams & Anderson, 1991). Though, in this Ph.D. study, WWB (Parker & Hyett, 2011)

measured more than trust, Altuntas et al.'s study (2010) lend support in identifying WWB as a predictor of both OCBI and OCBO.

Reviews of OCB (Jha & Jha, 2010; Ocampo et al., 2018; Harvey et al., 2018) have indicated job satisfaction as the most popular and common hedonic predictor of OCB at work. Whilst some scholars have identified eudemonic predictors of OCB, such as perceived support (Chen et al., 2008; Chu et al., 2005) and trust (Altuntas et al., 2010); others have explored hedonic state-like emotions, such as PsyCap (Avey et al. 2008; 2011), on OCB. However, these constructs may not have been sufficiently examined as significant hedonic or eudemonic predictors of OCB. Therefore, this may have been the reason for not being included in recent review papers of OCB such as Ocampo et al. (2018) and Harvey et al. (2018). Further, WWB measures that involve both hedonic and eudemonic factors, such as Parker & Hyett (2011) have not been explored as antecedent of OCB prior to this study. Hence, this research is an original study that demonstrates the influence of both the eudemonic and hedonic dimensions of EWB in life and at work on OCB in the health care sector.

8.3 Contributions

Thus far, this chapter has reviewed and discussed the results of the study. Explanations were given for some of the expected and unexpected results. This was done by drawing support from the literature on EWB and dimensional OCB (discussed in Chapters 2 and 3). The next section reflects on some of the theoretical, practical, and methodological contributions made in this research.

8.3.1 Theoretical contributions

The theoretical contributions of the study are modest, but significant. These contributions are discussed in relation to the following four subheadings: (1) theoretical contribution to the OCBI-OCBO framework; (2) contribution to the OCBI (towards clients) literature in health care; (3) the EWB framework, and (4) in the systematic explanation of the combined theoretical underpinnings of Fredrickson's B&B theory,1998, Hobfoll's COR theory, 1989, and Blau's SET, 1964.

1. Theoretical contribution to the OCBI-OCBO framework

One of the major contributions of this study is to the theory of organizational citizenship behaviours, especially to the OCBI-OCBO framework. It has been noted in recent reviews of OCB (Podsakoff et al., 2014; Harvey et al., 2018) that, given the multitude of OCB terms and dimensions, researchers tend to pick and choose dimensions according to their research objective, without paying attention to any specific framework. This impedes the collation of research efforts into building, broadening, and enriching the theory of OCB. Through the use of the standardized OCB framework, the results of this study validated the OCBI-OCBO framework and, therefore, within the limitations of the study, contributed effectively towards the standardization, validation, and consistency of OCB research outcomes.

Specifically, Podsakoff et al. (2014) in their review on OCB, commented that 'OCBOs and OCBIs might have differential relationships with at least some antecedents' (p. 125). The present study found this to be the case: it showed that SWB influenced OCBO, but not OCBIc or OCBIt. However, PWB did not predict OCBO, but influenced OCBI

towards teammates. Further, WWB influenced OCBO, and OCBI towards teammates, but did not predict OCBO. Further, the composite construct of EWB (composed of SWB, PWB, and WWB), differentially related to OCBIc, OCBIt, and OCBO, in which EWB had the strongest relationship and influence on OCBIt, followed by OCBO and OCBIc. These results, therefore, contradict LePine et al.'s (2002) assertions about small differences in the relationships between OCBI and OCBO, and endorses the OCBI-OCBO framework (Podsakoff et al., 2014) as a qualifying standard in OCB research. The contribution of this study is the identification of these various employee wellbeing predictors of OCB that, to the knowledge of the researcher, has not been broadly defined and examined in the literature.

2. Contribution to the OCBI (towards clients) literature in health care

Another important contribution to the theory of OCB is the specific exploration of OCB towards clients in the health profession. Previous studies on the OCBI-OCBO framework (e.g. Williams & Anderson, 1991; LePine et al., 2002; Chandrakumara et al., 2010) have mainly tested OCBIs towards colleagues, co-workers, and teammates. Even though this study also explored OCB towards teammates, and the organization, it also created and validated a separate construct of OCBI towards clients. Patients of health professionals are often referred to as clients in the health industry, therefore, this study added to the theory of OCB towards patients (Irvine, 1995) as well as to the broader dimension of OCB toward customers (OCBC).

This is an important contribution because OCB towards customers (OCBC) has become a significant marker of the organization's growth, competitive advantage, and

sustainability (Hyde et al., 2013; Feather et al., 2018). Patients evaluate the quality of health care services based on the behaviours of health care personnel (Chang et al., 2006; Ho et al., 2009; Feather et al., 2018). This means that when clients in health services get more or better health services than they expected, it will lead to higher patient satisfaction and customer loyalty. Hence, this study contributes to the OCBC literature, by demonstrating the significant influence of the EWB construct, (SWB, PWB, and WWB) on OCBIc.

Further, the study showed that out of the three distinct EWB factors, PWB had a significant influence on OCBI towards clients. However, in this study, PWB of nurses and allied health professionals was represented by autonomy and purpose in life (Ryff, 1989). Whilst earlier literature (such as Springer & Hauser, 2006) demonstrated that autonomy and purpose in life are among the purer eudemonic dimensions of PWB (Ryff, 1989), these two factors are related to the wellbeing of health professionals (Utriainen et al. (2015). This study, therefore, validates similar findings in the literature (Utriainen et al., 2015; Skinner et al., 2011) and commends the role of these two dimensions of PWB in OCB towards clients.

The contribution of this study is also that, on one hand, it challenges the ad hoc measurement of PWB as commonly tested on the general community; and on the other hand, it encourages future validation studies of the autonomy and purpose in life dimensions of PWB among health professionals as antecedents of OCBI towards clients. In doing so, the study encourages future researchers of OCB to develop, explore, and validate specific measures for OCB towards patients. Such research would focus on examining eudemonic behaviours that involve ‘challenging and meaningful work’ and

the ‘freedom to express diverse feelings in the work community’ in the health setting (Utriainen et al. (2015).

Although a few researches have explored organizational citizenship of nurses (e.g. Chang & Chang, 2010; Cavanagh et al., 2012; Utriainen et al., 2015), studies on EWB predictors of OCB in health professionals are scant (Khosrojerdi et al., 2018). This study, therefore, makes a modest contribution to the literature on OCBC in the health sector. The number of nurses and allied health professionals registered globally, and in Australia itself (Australian health task force data, 2017) is more than 300,000 (Appendix F), and this study examined only a very tiny portion (n=201) of the health professional in Australia. Nevertheless, as described above, the theoretical contribution of this study to OCBC research is significant.

3. Validation of the proposed EWB framework

As shown in the literature, EWB of health professionals has been narrowly defined and investigated as the hedonic or SWB variables of health workers. In contrast, this study contributed to the theory of EWB by validating its independent variables, SWB, PWB, and WWB in which each of these aspects of EWB were reliable and valid measures that were independent of each other (Chapter 6). Therefore, this study provided empirical evidence for the nature and definition of EWB. Further, the study examined EWB of nurses and allied health professionals in Australia and added to the outcome literature of EWB in the health care sector by exploring the influence of EWB on OCB toward clients, teammates, and the organization.

Moreover, past research tended to focus on the EWB of nurses rather than allied health professionals (Boiler et al., 2014). Since 49% of the participants in this study were psychologists, this study may have made some meaningful advances to the literature on EWB and OCB of this specific type of allied health professionals.

8.3.2 Practical contributions

The findings of this study provide practical insights for human resources (HR) into how the EWB variables of nurses and allied health professionals can augment valuable OCB towards clients, teammates, and the organization. Specifically, this study indicates that HR professionals should promote SWB to augment OCB towards clients. Further to enhance OCB towards both clients and teammates, the study further suggests that practitioners should look beyond the feel-good (SWB) factors that benefit health and fitness. Rather than typically only managing the more temporary and fleeting SWB factors (for example, providing free gym memberships), employers can ensure high levels of PWB by promoting OCB toward clients and teammates. More specifically, employers should ensure that nurses and allied health professionals are given high levels of autonomy and purpose at work.

Moreover, the study suggests that high levels of WWB will promote OCB towards teammates and the organization. Hence, to achieve this outcome on a practical level, HR policies and procedures must ensure excellent work conditions and respectful interpersonal relationships within the organization. The study further implies that the development and integration of EWB variables into the organization's wellbeing

programs, health and safety programs, and training and development programs will ensure healthy professionals who function optimally and flourish at work. Research and development should regularly monitor and review EWB and OCB towards clients, teammates, and the organization.

In this study, SWB was not significantly related to OCB towards clients and teammates. Given that effective nursing and allied health work depend on cooperation and collaboration between practitioners and their colleagues/teammates and patients/clients, these study outcomes must be carefully considered. The study, therefore, has specific implications for the participating hospital and clinics. Research and development sections within the HR department must consistently evaluate, monitor, and review the presence or absence of negative feelings and dissatisfaction and influence on OCBIs (OCBIc and OCBIt). Positive feelings and a sense of being appreciated by the organization can be easily enhanced through such things as flexible work policies, mindfulness breaks, a 15-minute 'neck, and shoulder' massage session, or a small gift like movie tickets, and be rewarded in lieu of OCBIc and OCBIt shown by the health professionals.

However, to promote citizenship behaviours through EWB in the workplace, workshops on wellbeing must also incorporate variables beyond feeling good and satisfied. For example, wellbeing workshops should be conducted for nursing unit managers to learn the benefits of allowing and creating opportunities for health professionals to experience autonomy and purpose or meaningfulness. To motivate and encourage the nurses and allied health professionals in engage in OCB, managers should remunerate their OCB discretionary efforts. For example, employees' names and photographs can be advertised on a 'wall of fame' when they participate in extra-role initiatives.

Managers and supervisors could run classes involve health professionals in training modules like the role of positive SWB, PWB, and WWB in boosting OCBs via team-building exercises, positive organizational culture, and positive organizational scholarship (creating a positive work environment). On the other hand, the participating clinical settings should continue to encourage these extra-role behaviours through establishing extracurricular taskforces, such as occupational health and safety, or social and cultural society in the workplace.

Moreover, health organizations should invest in consistent research to monitor, review, and update managers and their staff on the association between EWB and citizenship behaviours. To save the costs of outsourcing, interns can be engaged, to assist in surveys and data collection. For example, EWB, OCBIc, OCBIt, and OCBO should be regularly assessed in surveys on the quality of patient care. Outcomes of the research should be shared in company newsfeeds and at the annual general meeting.

Such HR/management-integrated wellbeing programs, training, and research efforts can enhance OCB of the health professionals towards individuals and the organization. Indeed, the literature shows the domino effect that practising these discretionary behaviours can have in enhancing work culture and propelling the Australian health care system towards a competitive edge. Whilst this study cannot claim these outcomes, the practical advice offered is towards this end.

8.3.3 Methodological contributions

The methodological contributions of the study are mainly two-fold: the first is the justification of concept measurements of the study variables; the second is the application of the sophisticated multivariate analysis program, partial least square structural equation modelling (PLS-SEM). The following two parts will explain how this study made methodological contributions to organizational research.

1. Validated concept measurement models

This study endorses the importance of specifying the concept measures, which is often ignored by scholars in the literature of organizational science. The neglect of mentioning and justifying study constructs as either reflective or formative was observed in the literature on both OCB and EWB. The contribution of this study is, therefore, in its justification of concept measurement models for each of its study variables as reflective, and its justification for following guidelines (for example, Jarvis et al., 2003) to avoid misspecifications of the study model to ensure valid results and clear interpretations. It is hoped that future scholars may be encouraged to do the same in their OCB research pursuits.

2. Validated importance of PLS-SEM in exploratory research

Research on EWB and OCB studies in the past has been confined to correlations, factor analysis, and/or regression methods; this has inherent limitations. For instance, regression or factor analysis does not account for individual error variances of the constituent factors in complex models with multiple independent and dependent variables. To eliminate such limitations and for cleaner results, this study conducted a more sophisticated statistical analysis, partial least square-structural equation modelling (PLS-SEM) (Hair et al., 2017). This method minimized the total error variance by accounting for the respective error variances of each constructs in the study.

Another methodological contribution of the study was that it validated the soft distribution properties of PLS-SEM, which allowed for a small sample size and non-normal data (Hair et al., 2017). Further, since, any cross-sectional study that relies on a survey method in which the response rate is between 30% and 40% (Saunders et al., 2012) can be problematic for a researcher. In particular, the issue of obtaining an adequate sample size within a short time can create be quite difficult. In this study, the adequate sample size for PLS-SEM was estimated to be 90, though the researcher obtained a total usable non-normal survey sample size of 201. PLS-SEM handled these practical concerns and was able to indicate meaningful relationships between the three aspects of EWB, and the three OCB variables respectively. The methodological contribution of this study was, therefore, in advancing the benefits of PLS-SEM in exploratory studies among variables; especially in the absence of any established theory between EWB and OCB.

8.4 Chapter summary

This chapter discussed the main findings of the exploratory study on the relationship and influence of EWB variables on OCBIc, OCBIt and OCBO of nurses and allied health professionals in Australia. It then described some of its significant contributions to the theory of EWB and OCB literature. Practical implications for human resources of the health profession was made to improve OCBIc, OCBIt and OCBO via associated wellbeing antecedents. Finally, the study made some methodological contributions in which the importance of model specifications and the PLS-SEM were advocated for similar exploratory studies.

Chapter 9 concludes the study by making some final comments on all the eight chapters of the thesis and then discusses the limitations of the study. It then ends with some recommendations for future research.

CHAPTER 9

CONCLUSIONS, LIMITATIONS, AND FUTURE DIRECTIONS

9.1 Introductions

Chapter 8 discussed the findings of this study and its theoretical, practical, and methodological contributions. This chapter provides some final comments on this Australian study of the influence of employee wellbeing (EWB) on organizational citizenship behaviours (OCB) towards individuals and the organization. Finally, the chapter considers the limitations and future directions of this research.

9.2 Conclusions

Organizational scholars have long appreciated the importance of OCB, which are an employee's discretionary efforts outside his or her formally assigned tasks. However, it was not until the early 1980s that research started to examine these constructs more systematically. For example, in the year 2014 alone, over 2100 articles on OCB were published (Podsakoff et al., 2014). Further, in the context of global trends such as labour shortages, immigration, diversity, and changing work-values (Harvey et al., 2018), the nature, antecedents, and consequences of OCB are currently being reviewed. More importantly, in practice, the extent to which a service industry focuses on OCB are evident in reward-allocation and performance-management policies of HR (Becton et al., 2012; Dirican and Oya, 2016). In this milieu, literature on OCB indicates that its employee wellbeing antecedents are narrowly defined and understudied. On the other hand, in the health sector, health professionals are reporting poor wellbeing with consequential

influence at the cost at an individual level (for instance, turnover, performance) and the cost at an organizational level (for instance, patient safety, quality of care).

It is against this background that this study examined the relationship and relative influence of EWB variables on OCB towards clients, teammates, and the organization (OCBO) of nurses and allied health professionals in Australia. The results show that EWB factors were associated with OCB towards individuals (clients and teammates) and the organization. Further, EWB affected OCB towards clients, teammates, and the organization differentially. Moreover, each of the EWB factors (SWB, PWB, and WWB) showed individual predictive effects on OCB towards clients, teammates, and the organization. More specifically, the results indicated that the hedonic SWB significantly affected OCB towards the organization, but did not affect OCB towards clients, and teammates. The eudemonic PWB, on the other hand, did not affect OCB towards the organization, but affected OCB towards clients and teammates significantly. Finally, the WWB, comprising both hedonic and eudemonic indicators, affected OCB towards the organization and teammates, but not towards clients.

The study thus contributed to the theory of OCB towards individuals (OCBI) and the organization (OCBO); and explored the distinct employee wellbeing factors as predictors of OCB. Further, the findings of the study on EWB-OCB implied that managers and supervisors of nurses and allied health professionals could find useful the insights on EWB and its influence on OCB towards clients, teammates, and the organization and be able to translate these insights into HR practices.

9.3 Limitations

There were several limitations to this study and these are presented under three subheadings: design of the research, measures, and outcomes.

1. Design of the research

Owing to the limited access to employees and limited time for completion, the cross-sectional design was the most time and cost-effective way to conduct this study. In a cross-sectional design, the data on the survey questionnaire are collected at only one point in time and from one source—in this study, from nurses and allied health professionals only. Hence, the findings on the relationship and influence of the wellbeing of nurses and allied health professionals on their OCB towards patients, teammates, and the organization are biased and not generalizable. In similar research in the future, the common-method variance can be reduced if data are collected on two occasions instead of one (Podsakoff et al., 2003).

Specifically, the predictive data can be collected first on the EWB dimensions, followed by data on their dependent OCB dimensions a week later (Avey et al., 2008). This approach should minimize the common source bias that inflates relationships between study variable when data are collected at one point in time. However, neither theory (Spector, 2006) nor empirical evidence (O'Brien & Allen, 2008) suggests that common-method variance influences the importance of any of the predictor-variable relative to other predictors. Hence, in this study the relative importance of EWB variables may not have been overstated by the study's single source and single-point–in-time data collection.

Further, future research could use better cross-sectional designs; for instance, an experience sampling method (Ashkanasy & Humprey, 2011), which employs multiple sources and multiple data collection points, could be used. However, such efficient cross-sectional designs require that the participating organizations commission such wellbeing-OCB research so that the researcher can access a larger number of participants on more than one occasions within the time limit of the research. However, in support of cross-sectional designs, Chiaburu & Byrne (2009) maintain that in this fast-paced world where definitions of variables are modified frequently, cross-sectional studies could still be practical.

The other limitation of the study was convenience sampling, which led to a skewed representation of the population of nurses and allied health professionals and biased data. The results are, therefore, not generalizable. However, following Herek et al.'s (1991, p. 959) advice on convenience sampling,

> when convenience samples must be used, researchers should fully describe their recruitment procedures and sample characteristics, discuss possible sampling biases, and identify the particular groups (e.g., ethnic, age, social class) that are likely to be over or under represented . . .',

this study minimized the sample method bias by identifying and reporting on the demographics of the data. The study also involved more than one recruitment methods, namely online and social media, and ensured that the participants recruited were from a diverse demographic group of nurses and allied health professionals.

2. Measures

Since this study was conducted in Australia (and the convenience sample is drawn from Australia), the WWB measure developed in Australia by Parker and Hyett (2011) was a suitable standardized questionnaire. However, to keep the survey short for the very busy nursing and allied health participants, only 21 items (selected on high factor loadings and relevance) out of the total 31 items in the original scale were selected, based on content validity. The reduced number of items may have affected the internal consistency and dimensionality of the scale. For example, in this study the dimension 'Intrusion of work in private life' had to be deleted as all the selected items within this dimension were weakly loaded (alpha below 0.4). Future studies should validate the full scale (Parker & Hyett, 2011; Hyett & Parker, 2015) and compare outcomes among cohorts of nurses, allied health professionals, and other professionals, across demographics, countries, and cultures.

3. Outcomes

Majority of the sample participants were female psychologists. Hence, a limitation of this study is that the representation of the sample is biased. This bias occurs due to two main reasons: the technique of convenience sampling, and the gender bias of nurses and allied health professionals in Australia, the majority being female (see data of Australian Task Force, 2017). On the other hand, the presence of the dummy variable of this study, which combined all the demographics of the study along with the wellbeing predictors, indicated a higher predictive value in the OCB towards clients, teammates, and the organization. This meant that the demographic variables in this study, though not studied separately,

made a difference to the study outcomes. Past studies have indicated the moderating role of demographics, such as age, on citizenship behaviours (Mohammad et al., 2010; Ocampo et al., 2018) and on wellbeing (Springer et al. 2011). Further, the role of these demographic factors is yet to be fully explored as moderators in the service industries of the twenty-first century (Ueda, 2016; Ocampo et al., 2018; Harvey et al., 2018). Hence, future studies could expand on this study model by examining the role of such demographic moderators in formulating a robust theory on the influence of EWB variables on OCBI and OCBO.

Though the influences of EWB variables on the associated citizenship behaviours towards clients, teammates, and the organization are small to moderate, they are significant. This is not a limitation, as small predictive values are typical in research that involves such psycho-social variables (Moksony, 1999). However, the small variances of the independent wellbeing variables on the respective dependent OCB dimensions indicated the presence of uncontrolled third variables that were not considered in this study.

9.4 Future directions

As stated in one of the scholarly works by Wood (2014), although research findings provide results for the enquiry at hand, inevitably more questions are raised than answered (p. 131).

Hence, after drawing on the conclusions, and limitations of this study, there are indeed more questions raised. Some recommendations for future directions are therefore made to improve the theory of EWB and its influence on the OCBI–OCBO framework. These recommendations are discussed under the following four subheadings: (1) the design of

the research; (2) validation of the model; (3) other third variables; and (4) a new measure for OCBI in health care.

1. Design of the research

This study was made on a relatively small cross-sectional sample (n = 201) of nurses and allied health professionals in Australia. Hence, the model of the study on EWB variables as antecedents of OCB towards clients, teammates, and the organization, could be further explored on a larger scale with a longitudinal design. A recent review of OCB by Ocampo et al. (2018) specifically recommends a thorough research analysis, such as a longitudinal OCB analysis, to generate greater insight in the theory of OCB, rather than a cross-sectional approach.

Further, by using longitudinal within-person designs (such as experiencing sample method) future research can explore the dynamic, time-dependent, intra-person contextual nature of EWB and OCB towards clients, teammates, and the organization. in addition to a between-person design.

Common method bias is likely to have occurred in this study because nurses and allied health professionals may have overrated themselves on the employee wellbeing variables, and OCB dimensions in order to be perceived positively. This bias can be minimized in future research designs by obtaining data on EWB from the health professionals (as they can report best how they feel), but sourcing more relatively objective data on the health professional's OCBI and OCBO from their supervisors. Further, data on OCBI towards clients could also be additionally sourced from patients/clients; and OCBO of the health professionals could also be evaluated by HR managers.

In this research, the OCB and EWB variables were justified as reflective constructs. However, the results of this study also suggest that a formative measurement model could have been justified for the OCB dimensions. This is because, in this study, the variation inflation factor (VIF) as a measure of collinearity was used, in which, the lower value of collinearity empirically indicated that endogenous constructs of citizenship could be formative. Moreover, Bollen & Diamantopoulous (2017) indicated (see Chapter 4) that a construct measured by formative indicators implies that such indicators are causes rather than effects and assume multidimensionality. The authors (Bollen & Diamantopoulous, 2017) stated that this was a liability as it unrealistically assumes the formative construct to be error–free, and this in turn can affect the validity and interpretation of results. Nevertheless, in future studies, the formative measurement models should be tested alongside the reflective models (Edward, 2011) for OCBI and OCBO.

Past research analysis of wellbeing and OCB appeared to be confined to regression methods, which do not account for individual error variances of the constituent factors. This study embraced the method of partial least square structural equation modelling that considered the error variances of each of the independent EWB and dependent organizational citizenship variables. However, partial least square structural equation modelling in this study explored a linear relationship between EWB variables and the dimensional OCB. Future research should use SEM models (such as AMOS-SEM) that allow theory testing and covariant interactions between the variables of interest to be carried out simultaneously. However, there is much scope for exploratory analysis like PLS-SEM to further develop the relatively new theory of EWB and OCBI/OCBO.

2. Validation of the study model

This study engaged two main chains of private psychiatric hospitals and their branches in Australia to participate in the research; and it also invited participation of health professionals through the social media (LinkedIn). Hence, participants in this study were mixed and represented employment in private and public health services. Future research can validate the current model of EWB_OCB and its measures specifically in relation to public and private hospitals, or hospitals and/or community services in the metropolitan Australian cities, or it can compare the findings from rural areas.

In this study, nearly 50% of the sample (n = 201) represented psychologists; and the participating hospitals, which were private psychiatric clinics, were among the main sources of data. Studies have indicated that health professionals, like nurses, who work in the mental health report poorer wellbeing than those who work in other health wards of a hospital (Johnson et al., 2018). Hence, the model of this study can be used to compare the employee wellbeing of nurses and allied health professionals with those who work in other areas of health in hospitals and in the community. The scope of research on this topic within Australia is vast and the study model may also be tested in other countries.

Whilst this study considered the influence of employee wellbeing on citizenship behaviour in the health sector, and past studies have probed the reverse relationships (e.g. Glomb et al., 2011). Hence, the model of EWB, OCBI, and OCBO could explore the reverse relationships between the study variables, in which the OCBI towards clients, teammates, and the organization are positioned as exogenous latent variables and the

EWB variables (SWB, PWB, and WWB) are positioned as endogenous variables. If the relationship between the study constructs is considered in reverse, at what point would the respective OCBI towards clients, teammates, and OCBOs cease to produce positive feelings? At what point might the outcome shift to negative feelings, stress, and emotional exhaustion?

An area of potential scholarly interest could be a study to develop a theory that specifies a curvilinear relationship between EWB variables and the dimensions of OCB. The idea of studying curvilinear relationships of the study variables was considered in research by Bolino et al. (2013) in which the authors indicated the influence of increased OCB on ineffective outcomes such as illbeing, stress and burnout. For example, if SWB variables like positive affect are positively related to the OCBs towards individuals, scholars could also explore the limits of this relationship. Further, at what point will an increment in positive affect have no influence on dimensional OCB? Then, if life satisfaction, positive affect and negative affect are considered separately, what will be the optimal level of these aspects of SWB that will facilitate OCBI towards clients, teammates, and OCBO? Further, future studies could examine the role of a SWB threshold or set point (Lucas, 2007) in mediating the influence of optimal SWB on OCBI and OCBO? Therefore, future studies might explore both, reciprocal and curvilinear relationships between each of the employee wellbeing variables and dimensional citizenship behaviours.

Further, this model of EWB on dimensional OCB could be studied at organizational and unit levels. For example, just as Podsakoff et al. (2009, 2014) reviewed OCB and its outcomes at individual, unit, and organizational levels, future studies could examine EWB antecedents of OCB at individual, teammates, and organizational levels. More

specifically, the influence of EWB of nurses and allied health professionals on OCBIs and OCBOs should be explored at the different levels of the organization. The notion that positive interactions between EWB and OCB at individual level are likely to influence the team, units, and the organization to create a positive work climate can be investigated in further research.

3. Other third variables

The small effect of the independent EWB constituents on OCBI towards clients, OCBI teammates, and OCBO in this study implied the presence of other uncontrolled third variables. Future studies using this model could incorporate some of these third factors as mediators and moderators. For example, the organization's implicit and explicit demands on employees to demonstrate OCBIs and OCBOs can create stress and negative behaviours (Bolino & Klotz 2013) and OCB fatigue (Bolino et al., 2015). Hence, future studies could examine deviant/counterproductive organizational behaviours and OCB fatigue as mediators to enhance the understanding of the relationships between the study variables. Moreover, in the health profession, the level and balance between emotional intelligence and emotional labour (Karimi et al., 2013) of individual nurses and allied health professionals helps them to manage difficult clients and co-workers, which in turn regulates their own emotional wellbeing. Hence, emotional intelligence and emotional labour could be examined as moderators in future studies involving the relationship between EWB and OCB.

In this study, the theoretical underpinnings of broaden and build theory (Fredrickson, 1998, 2001), the conservation of resources theory (Hobfoll, 1989), social exchange (Blau, 1964), and the regulatory focus theory (Higgins, 1997) are combined conceptually to explain why and how EWB variables can influence OCBI/OCBO. Time-based research

designs could explore and validate this idea. Future studies using this model may also explore the perspective of cognitive behaviour therapy (CBT), which, according to Aron Beck (1970), explains how thoughts and emotions interact with behaviours. Though CBT is a traditional framework for psychologists to treat mental illnesses, it has recently been applied to positive psychology (e.g. Karwoski, 2006), and in organizational and management studies. For example, Barnes et al. (2017) applied CBT to improve employee work outcomes such as job satisfaction, affect, and OCB. On the other hand, a high level of work-related stress and burnout in nurses and allied health professionals (Harris et al., 2006; Dilig- Ruiz et al., 2014) leads to high costs for the individual and the organization (Duffield et al., 2014). Studies have demonstrated the efficacy of CBT in stress reduction at work (Riley et al., 2017). Hence, by using the theoretical underpinnings of CBT, the current model of this study can explain how positive evaluations and experiences of SWB, PWB and WWB can encourage more citizenship behaviours in health professionals.

4. A new measure for OCBI in health care

A new dimension of OCBI in the twenty-first century is more focused on OCB manifested towards customers (OCBC). According to Dastyari & Shahabi (2014), quality of service depends on how employees interact with the customer. Among health professionals, OCB are related positively to patient safety, patient loyalty, and quality of patient care (Feather et al., 2013). However, specific measures to examine health professionals' OCB towards clients/patients are scant in the literature (Irvine, 1995; Bettencourt et al., 2001). This research adapted items for OCB towards clients (OCBIc) from Irvine's (1995) study which used the term patients. Even though, the terms clients and patients can be used as synonyms, no measures on OCB toward clients of allied health professionals is found in

the literature. Hence, future studies may overcome this research caveat by developing specific questionnaires to measure OCBs towards clients in the health sector. To do so, scholars may first need to conduct an inductive qualitative study within a small group of nursing and allied health professionals; this could be followed by a quantitative cross-sectional study on a larger sample. In this way the new measure of OCBI towards patients will enrich the OCBI/OCBO framework as well as contribute to the OCBC literature.

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APPENDIXES

Appendix A: Participant's Information Sheet

Participant's Information Sheet

Title

Impact of employee wellbeing in citizenship behaviours towards individuals and the organization.

Objective of the study

This is an invitation to participate in a study conducted by researchers at the University of Wollongong. The primary objective of this study would be to identify elements of employee wellbeing that incorporates both personal (subjective- and psychological wellbeing) and WWB of nurses and allied health staff, employed by a hospital or any other health setting, and to examine its effect on organisational citizenship behaviour. Personal wellbeing therefore will therefore assess the extent to which one feel, think and function positively in life. The WWB will assess if one particularly feels, think and function positively at work. Organizational citizenship behaviours are discrete voluntary helpful behaviours towards others or towards one's organization.

Hence, the purpose of the study is to delineate which of these employee wellbeing variables relate and predict organizational citizenship behaviours towards individuals and organization. The sample for this study will be the voluntarily participating nurses and allied health professionals engaged in either public or private health settings in Australia.

Researchers

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Methods & Demands on Participants

We seek nurses and allied health staff (psychologists, social workers, physiotherapists) above the age of 18 years, who work for a health setting, (e.g. hospital, community health services, GP surgeries), to participate voluntarily in an one-off online anonymous 20 minutes survey regarding their experiences of wellbeing in personal and at work as an employee, and their involvement in altruistic behaviours outside their job-description at work, called 'organizational citizenship behaviours' towards individuals and the organization . Typical statements to rate on a scale on citizenship behaviours in the survey will include: Indicate the frequency with which you engage in: 'Provide emotional/ social support to patients'; 'cooperate closely with team members in order to ensure continuity of care'. A typical question asked for employee well-being will be: Does your work bring you a sense of satisfaction? And for general wellbeing, you would be asked to rate items on a scale, like, 'I feel good most of the time'; 'I have a sense of direction and purpose in life'.

Possible Risks, Inconveniences & Discomfort

Apart from the 20 minutes of your time to complete the online survey, we can foresee no risks for you. The online survey will be sent to nurses & allied health staff through human resources of the hospital. If a respondent decides to participate, he or she may use the

'Survey Monkey' link, https://www.surveymonkey.com/s/8RWF63L , which is maintained by an independent body and does not recognise any anonymous participant.

The study is anonymous which means that no records will be made of who does and does not choose to participate and only aggregate data will be accrued automatically on the online survey monkey under a code for each participant.

Your employer organization after considering the usefulness of the research has lend permission for this on-line survey, however your employer is not involved in the study in any other capacity.

This is a university doctorate research and your participation will be purely voluntary. At any point you may wish to terminate your participation, and this will have no impact on your relations with your employer. However, once you submit the form online you would be unable to withdraw the data and your submission would be taken as tacit consent to participate.

As such, your participation is voluntary and your decision to terminate the participation at any time will have no impact on your relationship with your management. The non-identifiable aggregate data will be stored in a password protected computer allocated to me by the Business Faculty, University of Wollongong. My supervisors and I will have access to the data given by you and this will be kept strictly confidential. Only the aggregate data of the whole study will be published.

Funding & Benefits of the research

The study is not funded by any organization. The study is intended to advance knowledge and expand on the theory of the relationship of between employee well-being and organizational citizenship behaviours (type of extra-role helpful performance behaviours). It may inform both future research as well as the human resource practices, policies and developmental programs on wellbeing and augment the link between wellbeing and citizenship among Australian nurses & allied health employees in health settings. In particular, given the recent literature on importance of extra-role citizenship behaviours in quality of service delivery, patient care, safety and treatment, the findings

of this study will be useful for participant organization/s not only to improve the effectiveness of their nursing and allied health professionals' well-being and but consequently their professional services. Further, this study will provide HR managers of the health service organizations, upon request, a summary of the research outcomes based on the analysis of the aggregate data collected from all health establishments and provide recommendations on how to enhance citizenship behaviours / performance of these health professionals in general through different variables of wellbeing enhancement and intervention programs in the Australian health sector organizations.

Ethics Review & Complaints

The study is reviewed and approved by the Human Research Ethics Committee of the University of Wollongong. If you may have any concerns or complaints regarding the way in which the research is or has been conducted, you must contact the University of Wollongong Ethics Officer on (02) 4221 3386 or email:
rso-ethics@uow.edu.au

Appendix B: Survey Questionnaire

Ref: HE14/274

The impact of employee well-being in organizational citizenship behaviours towards patients, co-workers and organization

Please tick on the appropriate circle.

Q1. What is your gender?

- Female
- Male

Q2. What is your age?

- 21-30
- 31-40
- 41-50
- 51-60
- 61-70
- 71 or older

Q3. Which of the following best describes your current relationship status?

- Married
- Widowed
- Divorced
- Separated
- In a domestic partnership or civil union
- Single, but cohabiting with a significant other
- Single, never married

Q4. What is the highest level of education you have completed?

- Diploma
- Undergraduate
- Postgraduate
- Doctorate
- Other professional qualification

Q5. How many years have you been working in your field of profession?

- 1-5

- 6-10
- 11-15
- 16-20
- 21-25
- Over 25

Q6. Which of the following categories best describes your employment status?

- Employed, working full-time
- Employed, working part-time
- Not employed, looking for work
- Not employed, NOT looking for work
- Retired
- Disabled, not able to work

Q7. Which of the following best describes your current job level?

- Manager
- Coordinator / Supervisor
- Registered Nurse
- Assistant in Nursing
- Psychologist
- Social Worker
- Physiotherapist
- Other allied health

8. Which of the following best describes your ethnic background?

- Australian
- Australian Aboriginal / Australian South Sea Islander / Torres Strait Islander
- New Zealand Peoples
- Other Oceanians (Melanesian & Papuan; Micronesian; Polynesian
- North-West European
- Southern and Eastern European
- North African and Middle Eastern
- South-East Asian
- North-East Asian
- Southern and Central Asian

People of the Americas

Sub-Saharan African

Q9. Please rate the items that best represent your current work situation on the following scale

	Not at all	Slightly	Moderately	Very	Extremely
1. Is your work fulfilling?					
2.Do your daily work activities give you a sense of direction and meaning?					
3. Does your work bring a sense of satisfaction?					
4. Does your work increase your sense of self-worth?					
5. Does your work make you feel that, as a person, you are flourishing?					

Q10. Please rate the items that best represent your current and most relevant circumstances in the organization on the following scale

	Not at all	Slightly	Moderately	Very	Extremely
1. In general terms, do you trust the senior people in your organization?					
2. Do you believe in the principles by which your organization operates?					
3.Do you feel content with the way your organization treats its' staff?					
4.Do you feel that your organization respects the staff?					
5. How satisfied are you with your organization's value system?					
6. At a difficult time would your boss be willing to lend an ear?					
7. Is your boss caring?					
8. Do you feel that your boss is empathetic and understanding of your work concerns?					
9. Does your boss treat you as you would like to be treated?					
10. Does your boss shoulder some of your worries about work?					
11. Do you feel your transactions with your boss are, in general positive?					

Q11. Please rate the items that best represent you and your work on the following scale

	Not at all	Slightly	Moderately	Very	Extremely
1. Does your work eat into your private life?					
2. Do you feel stressed in organising your work time to meet demands?					
3. Do you feel excessively pressured at work to meet targets?					
4. After work, do you find it hard to wind down?					
5. Do you find yourself thinking negatively about work outside of work hours?					

Q12. Please indicate the frequency with which you engage in these following behaviours at work towards your patients, co-workers and organization on the following scale

	Never	Almost never	Sometimes	Almost always	Always
1. Provide emotional/ social support to patients					
2. Focus on the needs of patients and sincerely attempt to meet all needs of patients					
3. Take extra time to respond to patient's needs					
4. Stay late to help a patient or a patient's family					
5. Provide assistance to a patient even though it is not part of job description					
6. Be reluctant to constructively respond to a patient's complaints about the hospital					
7. Cooperate closely with team members in order to ensure continuity of care					
8.Actively participate in reflective practice through team meetings					
9. Act courteously					
10. Be reluctant to volunteer to share special knowledge or expertise with other hospital workers					
11. Lend assistance to co-worker who is in difficult situation					
12.Willingly assist and care for colleagues and co-workers					
13. Make sure equipment and /or materials are not wasted					
14. Make sure physical space at work is safe, clean and pleasant					

	Never	Almost never	Sometimes	Almost always	Always
15. Give advance notice when unable to come to work					
16. Conserve and protect organizational property					
17. Take undeserved work break					
18. Maintain the image of the hospital or the health setting and proactively participate in relevant activities					

Q13. On the following scale please rate the items that best represent your current and relevant circumstances

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1. I live one day at a time and don't really think about the future						
2. I have a sense of direction and purpose in life						
3. I don't have a good sense of what it is I am trying to accomplish in life						
4. My daily activities often seem trivial and unimportant to me						
5. I enjoy making plans for the future and working to make them a reality						
6. Some people wander aimlessly through life, but I am not one of them						
7. I sometimes feel as if I've done all there is to do in life						

Q14. On the following scale please rate the items that best represent your current and relevant circumstances

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1. I am not afraid to voice opinions, even when they are in opposition to the opinions of most people						
2. My decisions are not usually impactd by what everyone else is doing						
3. I tend to be impactd by people with strong opinions						
4. I have confidence in my opinions, even if they are contrary to the general consensus						
5. It's difficult for me to voice my opinions on controversial matters						
6. I tend to worry about what other people might think of me						
7. I judge myself by what I think is important, not by values of what others think is important						

Q15. Please indicate how much you agree on the following rating scale, with each of the statements below

	Strongly Disagree	Disagree	Neither Agree Nor disagree	Agree	Strongly Agree
1. I feel good most of the time					
2. My life is going well					
3. I feel bad most of the time					
4. I feel positive most of the time					
5. In most ways my life is close to my ideal					
6. I feel negative most of the time					
7. I feel happy most of the time					
8. I am satisfied with my life					
9 I experience unhappy feelings most of the time					

Thank you for taking the time to complete the survey!

Appendix C: Descriptive Statistics

VARIABLE ITEMS	N	Range	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
WWB1	201	5.00	.00	5.00	3.1244	.06763	.95888
WWB2	201	5.00	.00	5.00	2.9303	.07142	1.01248
WWB3	201	5.00	.00	5.00	3.0498	.07045	.99876
WWB4	201	5.00	.00	5.00	2.9154	.07357	1.04298
WWB5	201	5.00	.00	5.00	2.7363	.07839	1.11136
WWB6	201	5.00	.00	5.00	2.6020	.08408	1.19197
WWB7	201	5.00	.00	5.00	2.8507	.07356	1.04289
WWB8	201	5.00	.00	5.00	2.5871	.08591	1.21804
WWB9	201	5.00	.00	5.00	2.6318	.08475	1.20157
WWB10	201	5.00	.00	5.00	2.7114	.08184	1.16031
WWB11	201	5.00	.00	5.00	3.2139	.08578	1.21614
WWB12	201	5.00	.00	5.00	3.0249	.08418	1.19347
WWB13	201	5.00	.00	5.00	2.8806	.09021	1.27893
WWB14	201	5.00	.00	5.00	2.9552	.08676	1.23003
WWB15	201	5.00	.00	5.00	2.5174	.09466	1.34199
WWB16	201	5.00	.00	5.00	3.0448	.08590	1.21778
OCBIC1	201	4.00	1.00	5.00	4.3333	.05657	.80208
OCBIC2	201	5.00	.00	5.00	4.3284	.05823	.82562
OCBIC3	201	4.00	1.00	5.00	4.0896	.05607	.79495
OCBIC4	201	5.00	.00	5.00	3.1194	.07841	1.11161
OCBIC5	201	4.00	1.00	5.00	3.3980	.07161	1.01528
OCBIT1	201	5.00	.00	5.00	4.1692	.06032	.85513
OCBIT2	201	4.00	1.00	5.00	3.9055	.07451	1.05642
OCBIT3	201	5.00	.00	5.00	4.6119	.04564	.64704
OCBIT5	201	5.00	.00	5.00	4.1940	.06376	.90397
OCBIT6	201	3.00	2.00	5.00	4.3234	.05183	.73478
OCBO1	201	5.00	.00	5.00	3.8308	.06392	.90623
OCBO2	201	5.00	.00	5.00	4.0498	.05975	.84706
OCBO3	201	4.00	1.00	5.00	4.4328	.05357	.75942
OCBO4	201	4.00	1.00	5.00	4.3731	.05255	.74503
OCBO6	201	4.00	1.00	5.00	4.1443	.05661	.80255
PWBP2	201	5.00	1.00	6.00	5.1692	.06879	.97532
PWBP5	201	5.00	1.00	6.00	5.1642	.06831	.96846
PWBP6	201	6.00	.00	6.00	4.6915	.09579	1.35808
PWBA1	201	6.00	.00	6.00	4.3483	.09920	1.40645
PWBA2	201	6.00	.00	6.00	4.3234	.08809	1.24896

PWBA4	201	6.00	.00	6.00	4.7114	.08275	1.17317
PWBA7	201	6.00	.00	6.00	4.6119	.09796	1.38876
SWB1	201	5.00	.00	5.00	4.0249	.04959	.70312
SWB2	201	5.00	.00	5.00	4.0498	.05632	.79844
SWB4	201	5.00	.00	5.00	3.5721	.07039	.99801
SWB5	201	5.00	.00	5.00	3.9403	.05583	.79147
SWB7	201	5.00	.00	5.00	3.8657	.06296	.89267
SWB8	201	5.00	.00	5.00	1.6318	.06816	.96632
WWB17R	185	4.00	1.00	5.00	3.9946	.07292	.99180
WWB18R	182	4.00	1.00	5.00	3.9396	.07561	1.02006
WWB19R	170	4.00	1.00	5.00	3.9765	.07913	1.03176
WWB20R	164	4.00	1.00	5.00	4.2683	.06593	.84431
WWB21R	160	4.00	1.00	5.00	4.1688	.07942	1.00453
OCBIC6R	200	4.00	1.00	5.00	3.7950	.06992	.98887
OCBIT4R	201	4.00	1.00	5.00	4.0498	.07847	1.11244
OCBO5R	200	4.00	1.00	5.00	4.3350	.05727	.80997
PWBP1R	201	5.00	1.00	6.00	4.7463	.09143	1.29626
PWBP3R	201	5.00	1.00	6.00	4.9154	.09484	1.34455
PWBP4R	200	5.00	1.00	6.00	5.0550	.08364	1.18278
PWBP7R	201	5.00	1.00	6.00	5.2786	.08232	1.16704
PWBA3R	197	5.00	1.00	6.00	4.1117	.08660	1.21543
PWBA5R	198	5.00	1.00	6.00	4.2374	.10074	1.41752
PWBA6R	197	5.00	1.00	6.00	3.8122	.10480	1.47089
SWB3R	199	3.00	1.00	4.00	2.0050	.05012	.70709
SWB6R	199	3.00	2.00	5.00	4.3417	.05490	.77448
SWB9R	200	3.00	2.00	5.00	4.4400	.05428	.76769
Valid N (listwise)	125						

Key: SWB=Subjective wellbeing; PWBA= Autonomy dimension of psychological wellbeing (PWB); PWBP=Purpose in life dimension of Psychological wellbeing (PWB); WWB=Workplace wellbeing. OCBIC= OCBIc=Organizational citizenship behaviours towards clients; OCBIT=OCBIt=Organizational citizenship toward teammates; OCBO= Organizational citizenship toward the organization. Numbers attached to items indicate the item number in the survey. R= reverse; items that are negatively stated.

Appendix D: Table on adequate sample size in PLS Analysis

Minimum sample size	Maximum number of arrows pointing at a latent variable in the model
52	2
59	3
65	4
60	5
75	6
80	7
84	8
88	9
91	10

Key: 9 arrows pointing to latent variables, OCBIC, OCBIT and OCBO in this study; indicating adequate sample size according to Marcoulides & Saunders (2006) is 88.

Appendix E: Australian Health Force Data (2017) Psychologists

Psychologists

2017 Factsheet

Australian Government
Department of Health

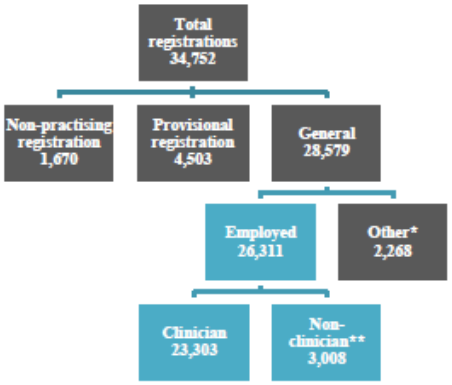
Psychologists are registered healthcare practitioners trained in human behaviour and study the brain, memory, learning and processes around human development. Psychological treatments can be used to help individuals, families, groups and organisations.

To gain registration as a psychologist, practitioners must complete a minimum four year program of study approved by the Psychology Board of Australia, followed by further approved postgraduate study and/or internship.

The following analysis of the psychology workforce is drawn from the number of psychologists with general registration who were employed (26,311 in 2017) unless otherwise stated.

Workforce

Figure 1: Psychology registrations, 2017



*'Other' includes: working but on long leave, working outside the profession, looking for work, overseas, and retired.
**'Non-clinician' includes roles reported by survey respondents that did not fit predefined survey categories.

The number of registered psychologists increased by 10.4% from 31,489 in 2014 to 34,752 in 2017 (an average annual increase of 3.3%).

Table 1: Psychologists, 2014-2017

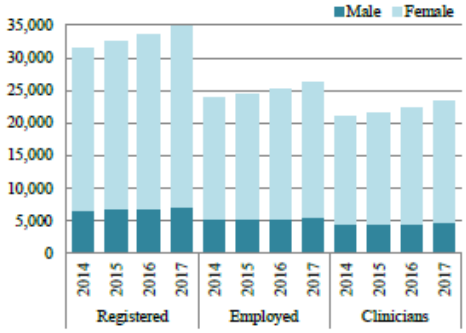
	2014	2015	2016	2017	Avg. annual growth
Registered	31,489	32,602	33,546	34,752	3.3%
Employed	23,810	24,474	25,219	26,311	3.4%
Clinicians	20,877	21,596	22,269	23,303	3.7%

The number of employed psychologists ('workforce') increased by 10.5% from 23,810 to 26,311 over the same period (an average annual increase of 3.4%).

Demographics

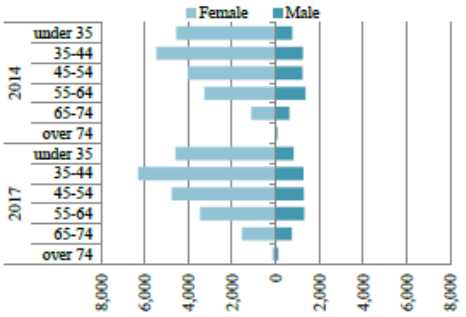
In 2017, female psychologists comprised 78.9% of the workforce, an increase from 77.6% in 2014.

Figure 2: Gender distribution, 2014-2017



In 2017, the average age of the workforce was 46.3 years, an increase from 45.9 years in 2014. Between 2014 and 2017, the proportion aged 65 years and over has increased from 7.6% of the workforce in 2014 to 9.6% in 2017.

Figure 3: Age and gender distribution, 2014 and 2017



Quick Facts - 2017

Figure 4: Summary, 2017

46.3	Average age
32.4	Average weekly hours
78.9	% female
73.3	% born in Australia
0.7	% Aboriginal and/or Torres Strait Islander
90.1	% with Australian qualifications
83.0	% in major cities

Contact: healthworkforcedata@health.gov.au

NHWDS Data Tool and Resources: http://hwd.health.gov.au

Replacement Rate

In 2017, there were 2.0 new registrants for every psychologist that did not renew their registration from 2016.

Hours Worked

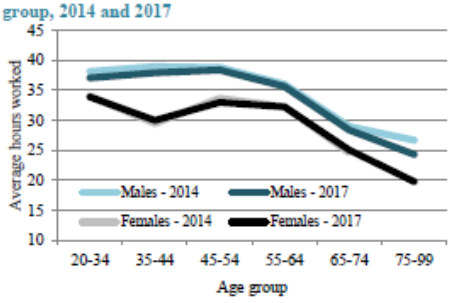
In 2017, psychologists worked an average of 32.4 hours per week in total, and worked an average of 8.7 hours per week in non-clinical roles.

Table 2: Average hours per week, 2014-2017

Average hours worked	2014	2015	2016	2017
Clinical	23.6	23.6	23.6	23.6
Non-clinical	9.2	8.9	9.0	8.7
Total	**32.8**	**32.4**	**32.6**	**32.4**

In 2017, female psychologists worked an average of 31.5 hours per week, a decrease from 31.6 hours in 2014. Male psychologists worked an average of 35.8 hours per week, decreasing from 36.7 hours in 2014. In 2017, males in the 45-54 age group worked the most hours, at 38.4 hours per week on average.

Figure 5: Average hours per week by gender and age group, 2014 and 2017



Job Role

Principal role

In 2017, 88.6% of psychologists worked as a clinician in their principal role, an increase from 87.7% in 2014.

Table 3: Principal role, 2014 and 2017

Principal role	2014		2017	
	Headcount	%	Headcount	%
Clinician	20,877	87.7	23,303	88.6
Administrator	1003	4.2	1,082	4.1
Teacher or educator	752	3.2	746	2.8
Researcher	914	3.8	901	3.4
Other	264	1.1	279	1.1
Total	**23,810**	**100**	**26,311**	**100**

Second job role

In 2017, 21.2% of the workforce reported a second job role in psychology, a decrease from 22.2% in 2014.

Table 4: Second job role, 2014 and 2017

Second job	2014		2017	
	Headcount	%	Headcount	%
Clinician	3,529	14.8	3,871	14.7
Administrator	325	1.4	340	1.3
Teacher or educator	678	2.8	657	2.5
Researcher	509	2.1	530	2.0
Other	244	1.0	192	0.7
Total	**5,285**	**22.2**	**5,590**	**21.2**

Area of Practice Endorsement

To be eligible to apply for an area of practice endorsement, a psychologist must undertake advanced training (an accredited qualification in the area of practice followed by a period of supervised practice).

In 2017, 38.6% of the workforce held at least one area of practice endorsement, increasing from 36.5% in 2014. The most common area of practice endorsement was Clinical psychology, which was held by 29.0% of the workforce while all other endorsements were held by less than 4% of the workforce.

Table 5: Area of practice endorsement, 2014 and 2017

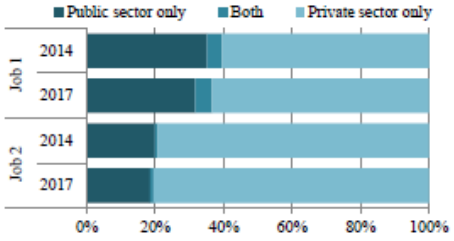
Area of practice endorsement	2014		2017	
	Head-count	%	Head-count	%
Clinical psychology	6,344	26.6	7,623	29.0
Counselling psychology	888	3.7	889	3.4
Clinical neuropsychology	521	2.2	591	2.2
Educational and developmental psychology	554	2.3	589	2.2
Forensic psychology	499	2.1	526	2.0
Organisational psychology	431	1.8	465	1.8
Health psychology	291	1.2	293	1.1
Sport and exercise psychology	84	0.4	86	0.3
Community psychology	54	0.2	50	0.2
Total	**8,700**	**36.5**	**10,146**	**38.6**

Principal Work Sector

In 2017, 31.6% of the workforce reported that in their principal role, they worked only in the public sector, a decrease from 35.1% in 2014.

Of those psychologists reporting a second job role in 2017, 80.5% reported they worked only in the private sector, an increase from 79.3% in 2014.

Figure 6: Sector in which clinical hours were worked, 2014 and 2017



Note: 'Not applicable' responses are excluded from the chart

Principal Work Setting

In 2017, 40.2% of psychologists worked in a Solo or Group private practice setting in their principal role, an increase from 36.8% in 2014, and 10.4% worked in a School setting, a decrease from 10.6% in 2014.

In 2017, psychologists working in the Defence forces (included in 'Remaining work settings') reported the highest average weekly hours (35.8) and those in GP practices reported the lowest average weekly hours (28.7).

Table 6: Principal work setting, 2014 and 2017

Principal work setting	2014		2017	
	Principal role	Second job	Principal role	Second job
Solo private practice	5,453	1,647	6,042	1,719
Group private practice	3,312	1,087	4,536	1,344
School	2,512	238	2,728	265
Community mental health service	1,984	261	2,106	283
Hospital	1,579	417	1,779	451
Tertiary educational facility	1,498	793	1,440	819
Other gov dept	1,354	177	1,382	195
Commercial/ business service	1,037	159	1,063	156
Other community health care service	922	170	882	176
Other	818	203	764	228
General practitioner (GP) practice	635	237	684	282
Other private practice	555	262	619	283
Remaining work settings	2,151	310	2,286	362
Total	**23,810**	**5,961**	**26,311**	**6,563**

Contact: healthworkforcedata@health.gov.au

Note: In this instance the principal work setting headcount for the reported second job does not equal the principal role for the reported second job. This occurs when the survey respondent indicates a second job work setting but not a second job principal role.

Principal Job Area

In 2017, almost half (42.1%) of the psychology workforce reported that the principal area of their main job was Counselling and over a quarter (26.6%) reported Mental health intervention.

Between 2014 and 2017, the proportion of psychologist reporting Mental health intervention as the principal area of their main job increased by 21.6%, while those working in the areas of Training for work purposes and Consulting / advising for work decreased by over 18%.

Table 7: Principal job area, 2014 and 2017

Prinicpal job area	2014		2017		Growth
	Head-count	%	Head-count	%	2014 to 2017
Counselling	10,245	43.0	11,066	42.1	8.0%
Mental health intervention	5,758	24.2	6,999	26.6	21.6%
Neuropsych/ cognitive assessment	1,113	4.7	1,258	4.8	13.0%
Psychology management / admin	944	4.0	1,057	4.0	12.0%
Consulting/ advising for work	869	3.6	1,031	3.9	18.6%
Other	783	3.3	781	3.0	-0.3%
Research and projects	801	3.4	769	2.9	-4.0%
Behavioural assessment	743	3.1	751	2.9	1.1%
Organisation practices	756	3.2	738	2.8	-2.4%
Teaching/ supervision	657	2.8	699	2.7	6.4%
Physical health/rehab	335	1.4	297	1.1	-11.3%
Medico-legal assessment	214	0.9	257	1.0	20.1%
Personal development / coaching	199	0.8	220	0.8	10.6%
Recruitment	116	0.5	133	0.5	14.7%
Training for work purposes	133	0.6	108	0.4	-18.8%
Community engagement	92	0.4	100	0.4	8.7%
Health promotion	52	0.2	47	0.2	-9.6%
Total	**23,810**	**100**	**26,311**	**100**	**10.5%**

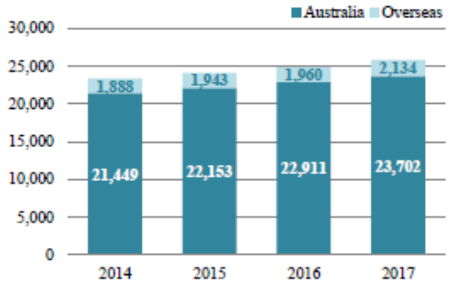
Initial Qualification

The workforce survey asks psychologists where they obtained their initial qualification. In 2017,

NHWDS Data Tool and Resources: http://hwd.health.gov.au

90.1% of the workforce obtained their initial qualification in Australia and 8.1% obtained their initial qualification overseas.

Figure 7: Initial qualifications, 2014-2017

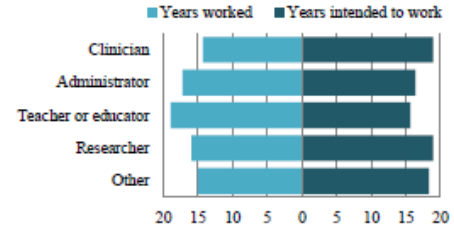


Note: 'Not stated/Unknown' responses are excluded from this chart

Working Intentions

In 2017, psychologists had, on average, worked 15 years in the profession and intended to work for another 19 years. In 2014, psychologists had worked 14 years on average, and had intended to work for another 19 years.

Figure 8: Workforce intentions by principal role, 2017



Distribution

State and Territory

In 2017, the jurisdictions with the most full-time equivalent psychologists per 100,000 population (FTE rate) were ACT and VIC. Between 2014 and 2017 the total FTE rate increased from 87.5 to 91.1. However, during this period, the number of psychologists in the NT decreased from 189 to 182 and correspondingly the FTE rate in the NT decreased by -6.6.

In 2017, psychologists in NT worked the most hours per week on average (36.7 hours) and those in VIC worked the fewest (31.6 hours).

Table 8: Distribution by state/territory, 2017

State / Territory	Headcount	Total FTE	Avg. total hours	[1]FTE rate per 100,000 population
NSW	8,682	7325.3	32.1	93.2
VIC	7,354	6119.0	31.6	96.8
QLD	4,738	4226.5	33.9	85.7
SA	1,370	1160.3	32.2	67.3
WA	2,770	2340.2	32.1	90.9
TAS	457	390.2	32.4	74.7
ACT	741	658.1	33.8	159.9
NT	182	175.8	36.7	71.0
Total	**26,311**	**22,410.7**	**32.4**	**91.1**

Note: 'Not stated/Unknown' are excluded from this table but are included in the total

Remoteness Area

In 2017, 95.3% of psychologists worked in either major cities or inner regional locations, compared to 95.1% in 2014.

Between 2014 and 2017, the largest shift in average hours worked was in remote areas, decreasing from 35.4 hours per week in 2014 to 33.3 hours in 2017. Subsequently, the FTE rate in remote areas decreased by -1.7.

Table 9: Distribution by remoteness area, 2017

Remoteness Area	Head-count	Total FTE	Avg. total hours	[1]FTE rate per 100,000 population
Major cities	21,849	18,550.5	32.3	105.0
Inner regional	3,214	2,735.3	32.3	62.3
Outer regional	1,059	956.0	34.3	46.7
Remote	124	108.8	33.3	37.2
Very remote	54	49.4	34.8	24.6
Total	**26,311**	**22,410.7**	**32.4**	**91.1**

Note: 'Not stated/Unknown' are excluded from this table but are included in the total

Other Work Location Outside Major Cities

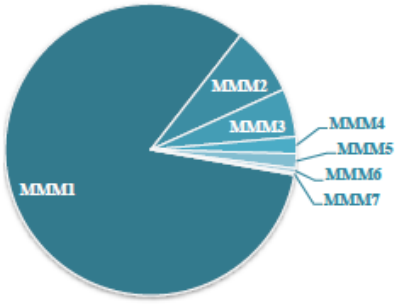
In 2017, 6.2% of the psychology workforce reported that they had worked in a regional, rural or remote location, in addition to their principal or second job location. Of these respondents, 72.0% had worked in an inner regional or outer regional location, and 10.3% had worked in either remote or very remote locations.

Modified Monash Model

In 2017, the majority (82.8%) of FTE psychologists were located in a major city or a location considered as MMM1 under the Modified Monash Model (MMM) classification system, an increase from 82.6 % in 2014.

(See www.doctorconnect.gov.au for more information on the MMM).

Figure 9: FTE distribution by MMM, 2017



MMM1 locations had the highest FTE rate of psychologists (105.6) followed by MMM3 (76.7). The lowest FTE rate was in MMM5 locations (20.0).

Tele-Health

The workforce survey asks psychologists to report their hours practiced via tele-health in psychology in the previous year.

Note: Tele-health is the use of telecommunication techniques for the purpose of providing telemedicine, medical education, and health education over a distance.

A total of 3,357 psychologists (12.8%) provided a response to the Tele-Health question in 2017. On average, these respondents practiced via Tele-Health for 3.5 hours per week, with the majority (82.5%) of Tele-Health services provided by practitioners based in a major city.

Table 9: Tele-Health psychologists by remoteness location, 2017

Major cities	Inner regional	Outer regional	Remote	Very remote
82.5%	11.2%	5.3%	0.7%	0.3%

Note: The tele-health workforce remoteness location refers to the location of the Practitioner, not the location of the person receiving the service.

References

1) National Health Workforce Dataset (NHWDS): Allied Health Practitioners 2014-2017.
2) ABS - 3218.0 - Regional Population Growth, Australia, 2016-17, Released 31/08/18.

Notes

1) 'NP' denotes figures that are not published (supressed) for confidentiality reasons
2) The 2013-2016 NHWDS have been revised due to an error in recoding the missing values for job role. As such the figures may not match those that were previously published.
3) FTE number measures the number of standard-hour workloads worked by employed health practitioners. The FTE number provides a useful measure of supply because it takes into account both the number of practitioners who are working and the hours that they work. FTE number is calculated based on the total hours worked in a 'standard working week'. The standard working week is assumed to be 38 hours, equivalent to 1 FTE for all practitioners with the exception of medical practitioners where it is assumed to be 40 hours.

Commonwealth of Australia 2019

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Appendix F: Australian Health Force Data (2017) Nurses

Nurses and Midwives

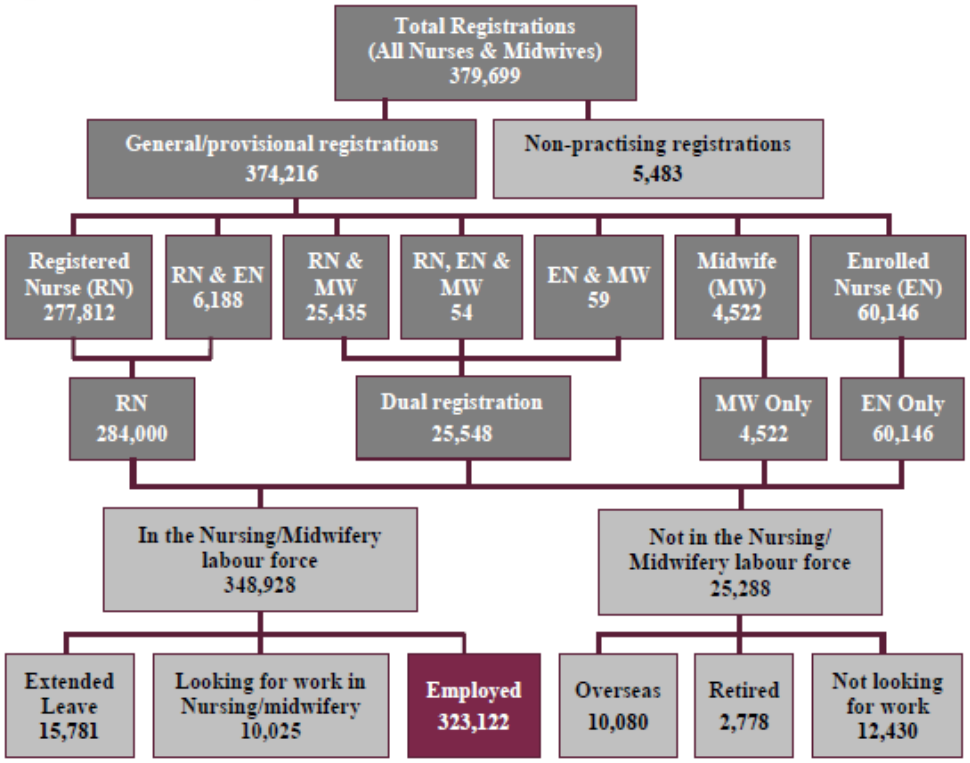
2017 Factsheet

Australian Government
Department of Health

All nurses and midwives must be registered with the Nursing and Midwifery Board of Australia (NMBA) and meet the NMBA's registration standards in order to practise in Australia. There are three divisions of registration: Enrolled Nurse (EN), Registered Nurse (RN), and Midwife (MW). Eligible practitioners may register in one or multiple divisions. Those who are registered as both a nurse and midwife are considered to hold dual registration.

The Workforce

Figure 1: Nurses and Midwives, 2017



Between 2014 and 2017, the total number of nurses and midwives with general or provisional registration increased by 7.4% from 348,444 to 374,216 (an average annual growth of 2.4%). The number of employed nurses and midwives ('workforce') increased 7.7% from 300,077 to 323,122 over the same period. The nursing and midwifery unemployment rate has remained stable at approximately 3.0% of the labour force since 2014.

The following analysis of the nursing and midwifery 'workforce' is based on the number of employed nurses and midwives as indicated by the maroon shading in Figure 1 (323,122 in 2017) unless otherwise stated.

Contact: healthworkforcedata@health.gov.au

NHWDS Data Tool and Resources: http://hwd.health.gov.au

Quick facts — 2017

Figure 2: Summary, 2017

44.1	Average age
33.4	Average weekly hours
89.0	% female
63.9	% born in Australia
1.1	% Aboriginal and/or Torres Strait Islander
80.4	% with Australian qualifications
72.3	% in major cities
1.7	Replacement rate

Table 1: Nurses and midwives by division, 2014 and 2017

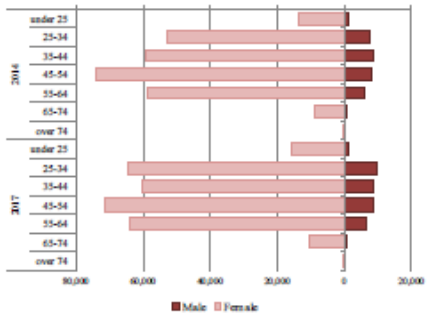
Division	2014	2017	Average annual growth
Registered Nurse	221,567	245,269	3.4%
Enrolled Nurse only	50,737	51,478	0.5%
Dual registration	25,077	22,568	-3.5%
Midwife only	2,696	3,807	12.2%
Total	**300,077**	**323,122**	**2.5%**

The number of nurses and midwives holding dual registration has decreased 9.6% from 28,266 in 2014 to 25,548 in 2017. This is most likely due to recency of practice requirements. In line with this, the number of dual registrants who were employed has decreased 3.5% from 25,077 to 22,568 over the same period.

Demographics

In 2017, 89.0% of the nursing and midwifery workforce was female. Since 2014, the number of males in the workforce has increased by 3,706 and they now comprise 11.0% of the workforce.

Figure 3: Age and gender distribution, 2014 and 2017



The average age of the workforce has decreased from 44.5 years in 2014 to 44.1 years in 2017.The proportion of nurses and midwives in the largest group (those aged 45-54 years) has decreased from 27.7% in 2014 to 24.9% in 2017.

Replacement rate

In 2017, there were 1.7 new registrants for every nurse and midwife that did not renew their registration from 2016. In 2016, the replacement rate was 1.8.

Note: the replacement rate differs to previously published figures as a large number of 'new registrants' had been omitted due to data extraction dates.

Hours worked

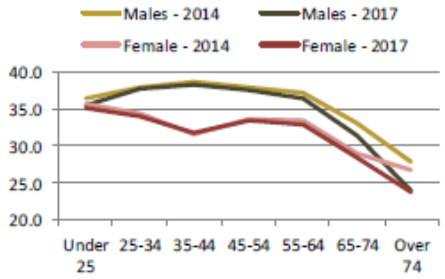
Since 2014, the number of average hours worked per week has decreased by 0.3 hours to 33.4 hours in 2017. The majority of these hours were worked in a clinical role (average 29.5 hours per week).

Table 2: Average total hours per week, 2014-2017

Average hours worked	2014	2015	2016	2017
Clinical	29.4	29.4	29.5	29.5
Non-clinical	4.3	4.1	4.0	4.0
Total	33.7	33.5	33.4	33.4

In 2017, male nurses and midwives worked more hours per week on average than females (37.3 hours vs 32.9 hours). The disparity in hours worked has decreased from an additional 4.6 hours for males in 2014 to 4.4 hours in 2017. The 35-44 year age group reported the largest difference with males working an average of 6.5 hours more than females.

Figure 4: Average total hours per week by gender and age group, 2014 and 2017



Males in the 35-44 age group worked the most hours, at 38.2 hours per week on average. Among females, the most hours were worked by the under 25 years age group at 35.0 hours per week on average.

Job Role

In 2017, 90.5% of nurses and midwives worked as clinicians - a small increase in comparison with 2014 (89.6%)

Table 3: Principal role, 2014 and 2017

Job role	2014	2017
Clinician	268,807	292,351
Administrator	14,446	14,322
Teacher or educator	9,604	9,953
Researcher	2,656	2,603
Other	4,562	3,892
Total	**300,075**	**323,121**

Note: Not stated/Unknown has been excluded

Principal work sector

In 2017, 60.1% of nurses and midwives worked only in the public sector, 36.6% only in the private sector and 3.3% in both.

Table 4: Sector in which clinical hours were worked, 2014 and 2017

Employment sector	2014	2017
Public sector only	168,972	181,685
Proportion (%)	*60.4*	*60.1*
Private sector only	101,534	110,475
Proportion (%)	*36.3*	*36.6*
Both	9,377	9,971
Proportion (%)	*3.4*	*3.3*
Non response	20,194	20,991
Total	**300,077**	**323,122**

Principal area of practice

The workforce survey asks nurses and midwives the principal area of their main job, which may be in either nursing or midwifery. The 'principal area of practice' response items are different in the surveys for nurses and for midwives. For the purpose of this factsheet these responses have been combined into one list.

In 2017, ten principal areas of practice accounted for 75.1% of the nursing and midwifery workforce. In 2014, these same 'top ten' areas of practice also accounted for 75.1% of the workforce.

Between 2014 and 2017, the number of nurses and midwives reporting that their principal area of practice in Medical increased 15.6%, Peri-operative increased 15.1% and Aged care increased 4.7%.

In 2016, there was a change to the response options in the principal area of practice question in the survey ('continuum of care' was renamed 'antenatal, intra-partum and post-partum care').

Consequently, there are large changes between 2014 and 2017 in the number of nurses and midwives who reported working in the Maternity care area of practice (decreased by 25.9%) and the number working in the Antenatal, intra-partum and post-partum, and neonatal care areas combined (increased by 190.5%).

Table 5: Principal area of practice, 2014 and 2017

	2014		2017		
Principal area of practice	**Head-count**	**Average Total Hours**	**Head-count**	**Average Total Hours**	**Change**
Aged care	43,878	32.8	45,943	33.0	*2,065*
Medical	27,193	33.7	31,436	33.5	*4,243*
Peri-operative	23,509	33.2	27,052	33.2	*3,543*
Surgical	23,477	33.1	24,872	33.0	*1,395*
Mental health	20,557	36.5	22,123	36.2	*1,566*
Mixed medical/surgical	20,561	32.5	21,502	32.6	*941*
Other	19,447	33.7	19,036	33.3	*-411*
Emergency	16,507	34.6	18,855	34.5	*2,348*
Critical care	17,809	34.8	18,136	34.8	*327*
Practice nursing	12,313	29.1	13,836	28.9	*1,523*
Community nursing	12,300	32.2	13,046	32.2	*746*
Rehabilitation and disability	9,663	33.7	10,383	33.4	*720*
Management	8,888	40.0	9,180	38.9	*292*
Paediatrics	7,498	32.3	7,159	32.3	*-339*
Education	6,732	34.8	6,571	34.3	*-161*
Neonatal care	1,061	36.6	5,082	32.8	*4,021*
Antenatal, Intra-partum and Post-partum care	2,436	37.3	5,076	34.2	*2,640*
Child and family health	4,399	32.8	4,298	31.5	*-101*
Postnatal care	4,489	33.1	3,773	30.6	*-716*
Palliative care	3,305	32.7	3,425	32.7	*120*
Care during labour and birth	4,073	35.3	3,122	33.2	*-951*
Maternity care	2,855	39.8	2,115	35.8	*-740*
Research	2,117	33.3	2,091	33.2	*-26*
Drug and Alcohol	1,704	35.3	1,916	34.6	*212*
Antenatal care	1,617	32.9	1,455	31.2	*-162*
Health promotion	1,225	31.1	1,124	29.5	*-101*
Policy	464	36.6	515	36.0	*51*

Note: Not stated/Unknown has been excluded; table sort order = 2017 headcount

In 2017, nurses and midwives whose principal area of practice was Management reported the highest average hours per week (38.9 hours) and those working in the Mental Health area of practice reported the second highest average hours worked per week (36.2 hours). Nurses and midwives in almost all principal areas reported working 30 hours per week or more on average except those in Practice nursing (28.9 hours) and Health promotion (29.5 hours).

Principal work setting

In 2017, 61.4% of nurses and midwives worked primarily in a Hospital setting. Residential health care facilities were the next most common setting (12.9%) followed by Community health care services (7.3%). These were also the most common work setting in 2014.

Table 6: Principal work setting, 2014 and 2017

Principal work setting	2014		2017	
	Head-count	Average Total Hours	Head-count	Average Total Hours
Hospital	182,765	34.1	198,287	33.8
*FTE Clinical hours - public**	*112,544.5*		*121,410.8*	
*FTE Clinical hours-private**	*37,111.9*		*40,304.8*	
Residential health care facility	39,569	33.0	41,587	33.2
Community health care service	23,185	34.0	23,609	33.6
General practitioner (GP) practice	10,794	28.7	12,208	28.7
Outpatient service	9,594	33.6	11,033	33.3
Other	11,279	34.3	9,971	33.6
Independent private practice	-	-	5,694	29.5
Other private practice	6,778	29.7	3,776	30.6
Tertiary educational facility	3,424	35.5	3,709	34.5
Other government department or agency	3,284	36.8	3,109	35.3
Correctional service	1,437	38.4	1,720	37.6
Aboriginal health service	1,511	39.4	1,597	38.2
School	1,398	29.9	1,545	29.5
Defence forces	1,152	37.3	1,341	37.4
Commercial/business service	1,462	33.6	1,308	32.7
Other educational facility	1,011	32.2	957	32.3
Group midwifery practice / caseload	282	32.6	794	38.3
Hospice	798	31.3	715	31.2
Specialist (O&G) practice	162	30.1	162	29.0
Locum private practice	191	30.8	-	-

Note: Not stated/Unknown has been excluded, table sort order = 2017 headcount
*The hospital setting FTE has been calculated based on clinical hours worked in the private or public sector.

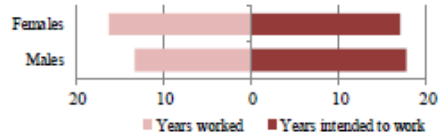
Between 2014 and 2017, the number of nurses and midwives working in Hospital settings increased by 8.5%, Residential health care facilities increased by 5.1% and Community health care services increased by 1.8%.

There have been changes to the response options in the principal work setting question in the survey ('independent private practice' was added in 2017, and 'private midwifery practice' was renamed 'group midwifery practice/caseload' in 2016). Consequently, there are changes between 2014 and 2017 in the number of nurses and midwives who reported working in Other, Other private practice and Group midwifery practice/caseload settings.

Working Intentions

In 2017, nurses and midwives had worked 16 years on average and intended to stay in the workforce for another 17 years. There were some gender differences: males reported having worked fewer years than females (13 years vs 16 years).

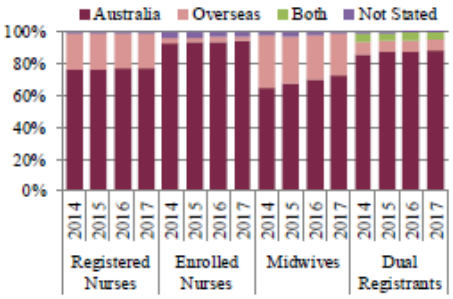
Figure 5: Workforce intentions, 2017



Initial qualification

The workforce survey asks where nurses and midwives obtained their initial qualification. In 2017, 80.4% obtained their initial qualification(s) in Australia, 17.8% obtained their initial qualification(s) overseas and 0.4% obtained both Australian and overseas qualifications.

Figure 6: Initial qualification by division, 2014-2017



Distribution

State and territory

In 2017, more than three quarters (75.9%) of the workforce was located in three states: NSW (28.1%), VIC (27.2%) and QLD (20.6%).

In 2017, the highest rate of nurses and midwives per 100,000 population were in the NT and SA while NSW and WA had the lowest rates. Between 2014 and 2017, QLD had the largest rate increase (111.7), conversely SA had the largest rate decrease (27.0).

From 2014 to 2017, the average hours worked per week decreased across all States and Territories. In 2017, nurses and midwives in the NT worked the highest average hours per week (38.2 hours) and those in SA worked the fewest hours (31.8 hours).

Table 7: Distribution by state/territory, 2017

State & Territory	Headcount	Total FTE	Average total hours	[3]Rate per 100K population
NSW	90,833	82,852	34.7	1,155.4
VIC	87,737	74,383	32.2	1,387.9
QLD	66,448	59,144	33.8	1,348.1
SA	28,116	23,531	31.8	1,631.2
WA	32,473	28,261	33.1	1,260.9
TAS	7,892	6,769	32.6	1,511.4
ACT	5,442	4,981	34.8	1,321.9
NT	4,087	4,104	38.2	1,651.4
Australia	323,122	284,120	33.4	1,313.6

Note: Not stated/Unknown has been included in the Australia total.
[3]ABS - 3218.0 - Regional Population Growth, Australia, 2016-17

Remoteness area

In 2017, 72.3% of nurses and midwives worked in Major cities, 17.8% in Inner regional, 7.9% in Outer regional and 2.0% in Remote/Very remote locations.

In 2014, the proportions of the workforce across remoteness areas were similar, with 71.7% working in Major cities, 18.1% in Inner regional, 8.1% in Outer regional and 2.1% in Remote/Very remote locations.

Table 8: Distribution by remoteness area, 2017

Remoteness Area	Headcount	Total FTE	Average total hours	[3]Rate per 100K population
Major cities	233,571	205,505	33.4	1,322.1
Inner regional	57,518	49,321	32.6	1,310.1
Outer regional	25,561	22,803	33.9	1,248.2
Remote	4,079	3,949	36.8	1,396.6
Very remote	2,350	2,502	40.5	1,171.6
Australia	323,122	284,120	33.4	1,313.6

Note: Not stated/Unknown has been included in the Australia total.
[3]ABS - 3218.0 - Regional Population Growth, Australia, 2016-17

In 2017, the average hours worked generally increased with remoteness, from 32.6 hours in Inner regional to 40.5 hours in Very Remote areas.

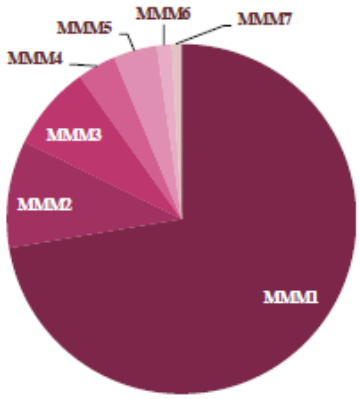
Between 2014 and 2017, there was a decrease in average hours worked across all remoteness areas.

Modified Monash Model

In 2017, the majority of FTE Nurses and midwives (72.3%) were located in a major city or a location considered as MMM1 under the Modified Monash Model (MMM) classification system, a small increase from 71.9% in 2014.

Note: See www.doctorconnect.gov.au for more information

Figure 7: FTE Distribution by MMM, 2017



Tele-Health

The workforce survey asks nurses and midwives to report hours practiced via tele-health in nursing, midwifery, or both in the previous year. Responses have been combined to provide an average for the workforce.

Note: Tele-health is defined as the use of telecommunication techniques for the purpose of providing telemedicine and education, and health education over a distance.

In 2017, 6.3% (20,220) of the workforce responded to the tele-health question. On average respondents practiced via tele-health 12.1 hours per week.

Remoteness area breakdown for tele-health refers to the location of the nurse or midwife, not the location of the person receiving the service.

Table 9: Tele-health workforce remoteness location, 2017

Major cities	Inner regional	Outer regional	Remote	Very remote
63.5%	17.8%	11.9%	3.6%	3.3%

Note: Not stated/Unknown has been excluded

Note: There are 5 factsheets in this series: 1 Nurses and Midwives, 2 Registered Nurses, 3 Midwives, 4 Enrolled Nurses, 5 Nurse Practitioners.

This factsheet is based on the total headcount, whereas the headcount in the individual fact sheets in this series are based on a job role or hours worked in the profession. This means, if a practitioner has a job role or worked hours in more than one profession, they will be counted in each profession's factsheet, but only once in this factsheet. Hence, when the individual factsheets in this series are added together, the total will vary from this factsheet.

Enquiries concerning this report and its reproduction should be directed to:

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References

1) Registered and employed workforce data, National Health Workforce Dataset 2014—2017 (http://hwd.health.gov.au)
Note: These numbers have changed due to an error in the NHWDS for 2013-2016 and won't match the previous years figures in the 2016 factsheets.

2) ABS - 3218.0 Regional Population Growth, Australia (http://www.abs.gov.au/ausstats/abs@.nsf/mf/3218.0), released at 11:30 AM (CANBERRA TIME) 31/08/2018

Appendix G: Future study on demographics

Impact of demographics on endogenous OCB variables:

Impact of Demographics	T Statistics	P Values
Demographics-OCBIc	0.017	0.986
Demographics-OCBIt	1.595	0.111
Demographics-OCBO	1.730*	0.084

In this study dummy variable is formed for each of the demographics in SPSS and exported to SmartPLS; all indicators are put together to form a dummy variable in SmartPLS. Bootstrapping indicated that demographics (which are combined gender, age, education, marital status, job level, and employment status only) had a significant impact on the organizational citizenship behaviours towards the organization; but is not significantly related to citizenship behaviours towards clients and teammates. The indications are for future research as this study is not intended to study the impact of the demographic control variables on the endogenous variables. Future studies could evaluate the demographics as moderators in enriching the theory on the wellbeing- citizenship behaviours link in the health sector or otherwise.